As filed with the Securities and Exchange Commission on June 29, 2023

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

MIRA PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Florida	**2834**	**85-3354547**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

855 N Wolfe Street, Suite 601
Baltimore, Maryland 21205
(737) 289-0835
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"), check the following box. ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☒	Smaller reporting company ☒
	Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☒

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This Registration Statement contains two prospectuses as set forth below.

- ***Public Offering Prospectus***: A prospectus to be used for the initial public offering by the Company of **[●]** shares of its common stock through the underwriters named on the cover page, which we refer to as the "Public Offering Prospectus".

- ***Resale Prospectus:*** A prospectus to be used for the potential resale by selling stockholders of up to **[●]** shares of common stock of the Company, which we refer to as the "Resale Prospectus".

The Resale Prospectus is substantively identical to the Public Offering Prospectus, except for the following principal points:

- they contain different outside and inside front covers;
- they contain different Offering sections in the Prospectus Summary section;
- they contain different Use of Proceeds sections;
- the Capitalization and Dilution sections are deleted from the Resale Prospectus;
- a Selling Stockholders section is included in the Resale Prospectus;
- the Underwriting section from the Public Offering Prospectus is deleted from the Resale Prospectus and a Plan of Distribution is inserted in its place; and
- the Legal Matters section in the Resale Prospectus deletes the reference to counsel for the underwriters.

We have included in this Registration Statement, after the financial statements, a set of alternate pages after the back cover page of the Public Offering Prospectus, which we refer to as the "Alternate Pages", to reflect the foregoing differences in the Resale Prospectus as compared to the Public Offering Prospectus. The Public Offering Prospectus will exclude the Alternate Pages and will be used for the public offering by the registrant. The Resale Prospectus will be substantively identical to the Public Offering Prospectus except for the addition or substitution of the Alternate Pages and will be used for the resale offering by the selling stockholders.

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell, and it is not soliciting an offer to buy, these securities in any state where the offer or sale is not permitted.

Subject to completion, dated , 2023

PROSPECTUS

[●] Shares

of Common Stock

This is the initial public offering of [●] shares of our common stock.

Prior to this offering, there has been no public market for our common stock. It is currently estimated that the initial public offering price will be between $[●] and $[●] per share. We have applied to have shares of our common stock listed on the Nasdaq Capital Market ("Nasdaq") under the symbol "MIRA". If shares of our common stock are not approved for listing on Nasdaq, we will not consummate this offering. No assurance can be given that our application will be approved.

We are an "emerging growth company" as defined in the federal securities laws, and, as such, are subject to reduced public company reporting requirements. See "Prospectus Summary — Implications of Being an Emerging Growth Company".

Investing in shares of our common stock involves risks. See "Risk Factors" beginning on page 14 to read about factors you should consider before buying shares of our common stock.

Neither the Securities and Exchange Commission ("SEC") nor any state securities commission or other regulatory body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share	Total
Initial public offering price	$	$
Underwriting discounts and commissions[(1)]	$	$
Proceeds, before expenses, to us	$	$

(1) See "Underwriting" for a description of the compensation payable to the underwriters.

The underwriters have the option for a period of 45 days from the date of this prospectus to purchase up to [●] additional shares of our common stock from us at the initial public offering price, less the underwriting discounts and commissions. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be $[●], and the total proceeds, before expenses, to us will be $[●].

The underwriters expect to deliver the shares to investors on or about , 2023.

Kingswood Investments

division of Kingswood Capital Partners, LLC

TABLE OF CONTENTS

Please read this prospectus carefully. It describes our business, financial condition, results of operations and prospects, among other things. We are responsible for the information contained in this prospectus and in any free-writing prospectus we have authorized. Neither we nor the underwriters have authorized anyone to provide you with different information, and neither we nor the underwriters take responsibility for any other information others may give you. Neither we nor the underwriters are making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. The information contained in this prospectus is accurate only as of the date on the front of this prospectus, regardless of the time of delivery of this prospectus or any sale of securities. You should not assume that the information contained in this prospectus is accurate as of any date other than its date.

INDUSTRY AND MARKET DATA

We are responsible for the disclosure in this prospectus. However, this prospectus includes industry data that we obtained from internal surveys, market research, publicly available information, and industry publications. We did not fund and are not otherwise affiliated with any of the sources cited in this prospectus. The market research, publicly available information, and industry publications that we use generally state that the information contained therein has been obtained from sources believed to be reliable. The information therein represents the most recently available data from the relevant sources and publications, and we believe remains reliable. However, this data involves a number of assumptions and limitations regarding our industry which are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section titled "*Risk Factors.*" Forward-looking information obtained from these sources is also subject to the same qualifications and additional uncertainties regarding the other forward-looking statements in this prospectus.

TRADEMARKS AND COPYRIGHTS

We own or have rights to various trademarks, service marks and trade names that we use in connection with the operation of our business. This prospectus may also contain trademarks, service marks and trade names of third parties, which are the property of their respective owners. Our use or display of third parties' trademarks, service marks and trade names or products in this prospectus is not intended to, and does not imply a relationship with, or endorsement or sponsorship by us. Solely for convenience, the trademarks, service marks and trade names referred to in this prospectus may appear without the ®, trademark (™) or servicemark (SM) symbols, but the omission of such references is not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable owner of these

trademarks, service marks and trade names.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expect," "plan," "anticipate," "could," "intend," "target," "project," "contemplate," "believe," "estimate," "predict," "potential", or "continue" or the negative of these terms or other similar expressions. In particular, statements about the markets in which we operate, including growth of our various markets, and our expectations, beliefs, plans, strategies, objectives, prospects, assumptions, or future events or performance contained in this prospectus under the headings "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business" are forward-looking statements.

We have based these forward-looking statements on our current expectations, assumptions, estimates and projections. While we believe these expectations, assumptions, estimates, and projections are reasonable, such forward-looking statements are only predictions and involve known and unknown risks and uncertainties, many of which are beyond our control. These and other important factors, including those discussed in this prospectus under the headings "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business," may cause our actual results, performance, or achievements to differ materially from any future results, performance or achievements expressed or implied by these forward-looking statements, or could affect our share price. Important factors that could cause actual results or events to differ materially from those expressed in forward-looking statements include, but are not limited to, the following:

- our use of the net proceeds from this offering;
- our ability to obtain and maintain regulatory approval of our product candidates;
- our ability to successfully commercialize and market our product candidates, if approved;
- our ability to contract with third-party suppliers, manufacturers and other service providers and their ability to perform adequately;
- the potential market size, opportunity, and growth potential for our product candidates, if approved;
- our ability to obtain additional funding for our operations and development activities;
- the accuracy of our estimates regarding expenses, capital requirements and needs for additional financing;
- the initiation, timing, progress and results of our pre-clinical studies and clinical trials, and our research and development programs;

- the timing of anticipated regulatory filings;
- the timing of availability of data from our clinical trials;
- our future expenses, capital requirements, need for additional financing, and the period over which we believe that the net proceeds from this offering, together with our existing cash and cash equivalents, will be sufficient to fund our operating expenses and capital expenditure requirements;
- our ability to retain the continued service of our key professionals and to identify, hire and retain additional qualified professionals;
- our ability to advance product candidates into, and successfully complete, clinical trials;
- our ability to recruit and enroll suitable patients in our clinical trials;
- the timing or likelihood of the accomplishment of various scientific, clinical, regulatory, and other product development objectives;
- the pricing and reimbursement of our product candidates, if approved;
- the rate and degree of market acceptance of our product candidates, if approved;
- the implementation of our business model and strategic plans for our business, product candidates, and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and technology;
- developments relating to our competitors and our industry;
- the development of major public health concerns, including the novel coronavirus outbreak or other pandemics arising globally, and the future impact of it and COVID-19 on our clinical trials, business operations and funding requirements; and
- other risks and factors listed under "Risk Factors" and elsewhere in this prospectus.

Given the risks and uncertainties set forth in this prospectus, you are cautioned not to place undue reliance on such forward-looking statements. The forward-looking statements contained in this prospectus are not guarantees of future performance and our actual results of operations, financial condition, and liquidity, and the development of the industry in which we operate, may differ materially from the forward-looking statements contained in this prospectus. In addition, even if our results of operations, financial condition and liquidity, and events in the industry in which we operate, are consistent with the forward-looking statements contained in this prospectus, they may not be predictive of results or developments in future periods.

Any forward-looking statement that we make in this prospectus speaks only as of the date of such statement. Except as required by federal securities laws, we do not undertake any obligation to update or revise, or to publicly announce any update or revision to, any of the forward-looking statements, whether as a result of new information, future events or otherwise, after the date of this prospectus.

GLOSSARY OF CERTAIN SCIENTIFIC TERMS

The medical and scientific terms used in this prospectus have the following meanings:

"API" stands for Active Pharmaceutical Ingredient, which is the main ingredient in a medicine that causes the desired effect of the medicine.

"Agonist" is a substance which initiates a physiological response when combined with a receptor.

"AMES test" is a biological assay to assess the mutagenic potential of chemical compounds. It utilizes bacteria to test whether a given chemical can cause mutations in the DNA of the test organism.

"Biosensor assay" is a biological assay used for the detection of a chemical substance that combines a biological component with a physicochemical detector.

"cAMP" is cyclic adenosine monophosphate, a messenger used for intracellular signal transduction in many different organisms.

"CBD" is cannabidiol, the second most prevalent active ingredient in cannabis which does not have psychoactive properties.

"CDMO" stands for Contract Development and Manufacturing Organization, a specialized type of supplier of development and production services to the pharmaceutical industry.

"cGMP" is the current Good Manufacturing Practices under the US Food and Drug Administration's standards. cGMP contains the minimum requirements for the methods, facilities, and controls used in the manufacturing, processing, and packing of a drug product. The regulations make sure that a product is manufactured under conditions and tested to ensure that it meets standards of identity, strength, quality, and purity.

"CNS" or the central nervous system is the brain and spinal cord.

"CSA" is the Controlled Substances Act, a U.S. regulatory framework that governs the classification of certain substances, and therefore the market access available to such substances; based on the CSA, the Drug Enforcement Agency (DEA) determines if a compound should be considered "Scheduled" or not. There are 5 levels of scheduling with certain substances such as marijuana categorized as Schedule 1, with no currently acceptable medical use or high potential for abuse.

"DNA" is the molecule that carries genetic information for the development and functioning of an organism.

"DRF" is an initial part of the toxicity study aimed to find the dose that will produce tolerable levels of adverse toxic effects of tested compounds.

"FDA" is the U.S. Food and Drug Administration.

"GPCRs" are G-protein-coupled receptors that form a large group of proteins which are expressed on the cell surface of eukaryotic cells to detect molecules outside the cell and activate cellular responses.

"GMP" is good manufacturing practice - a standard that is observed in regulated pharmaceutical-manufacturing facilities.

"Intraperitoneal" is within or through a thin, transparent membrane that lines the walls of the abdomen.

"Maximum tolerated dose" is the highest dose of a drug or treatment that does not cause unacceptable side effects. The maximum tolerated dose is determined in clinical trials by testing increasing doses on different subjects until the highest dose with acceptable side effects is found.

"Metabolic Profiling" is the measurement in biological systems of metabolites and their intermediates that reflects the dynamic response to genetic modification and physiological, pathophysiological, and/or developmental stimuli.

"Metabolite" is a substance made or used when the body breaks down food, drugs or chemicals, or its own tissue

"Micronucleus Assay" is used to determine if a compound causes DNA damage.

"Neuroinflammation" is the inflammation of nervous system.

"THC" is tetrahydrocannabinol, a compound that is the main psychoactive ingredient of cannabis.

PROSPECTUS SUMMARY

The following summary highlights selected information about our company and this offering that is included elsewhere in this prospectus in greater detail. It does not contain all of the information that you should consider before investing in our common stock. Before investing in our common stock, you should read this entire prospectus carefully, including the information presented under the heading "Risk Factors" and in our financial statements and notes thereto.

Unless otherwise noted, the share and per share information in this prospectus reflects a 1-for-5 reverse stock split of our common stock that became effective as of June 28, 2023.

In this prospectus, unless we indicate otherwise or the context requires, "MIRA," "the company," "our company," "we," "our," "ours" and "us" refer to MIRA Pharmaceuticals, Inc.

Business Summary

We are an early pre-clinical-stage pharmaceutical company focused on the development and commercialization of a new molecular synthetic THC analog under investigation for the treatment of adult patients with anxiety and cognitive decline typically associated with early-stage dementia. Our target patient population is also typically presenting with chronic pain. Our drug candidate, MIRA1a, if approved by the FDA, may be a significant advancement in the treatment of neuropsychiatric, inflammatory, and neurologic diseases and disorders. Based on pre-clinical and animal studies conducted by us, we believe that MIRA1a enhances the therapeutic potential for treating anxiety, cognitive decline and chronic pain by potentially striking a balance between the beneficial effects of THC and CBD. MIRA1a achieves this by selectively targeting the cannabinoid type 1 ("CB1") and cannabinoid type 2 ("CB2") receptors. Cannabinoid receptors, located throughout the body, are part of the endocannabinoid system, which is involved in a variety of physiological processes and responses including appetite, pain-sensation, mood, and memory. With respect to THC, our pre-clinical studies have shown that MIRA1a may have less potency at CB1 but maintains high activation at CB2. Since CB1 activation corresponds to intoxication, we believe that MIRA1a is potentially less intoxicating than THC while still providing beneficial therapeutic effects. In addition, by curbing the negative effects of THC (e.g. cognitive impairment), preclinical studies suggest that MIRA1a may be capable of unmasking positive therapeutic effects not previously seen with THC (e.g. cognitive performance enhancement).

Our Product Candidate in Development

Our objective is to develop and commercialize new treatment options for neuropsychiatric, inflammatory, and neurologic diseases and disorders. Cannabinoids are

a class of chemical compounds that are naturally occurring and are primarily found in cannabis plant extracts. The two major cannabinoids found in cannabis plant extracts include THC and CBD. These compounds bind to CB1 and CB2 cannabinoid receptors, which are found throughout the body. Specifically, CB1 receptors are concentrated in the central nervous system ("CNS"), while CB2 receptors are found mostly in peripheral organs and are associated with the immune system. When the chemical compounds bind to these cannabinoid receptors, the process elicits certain physiological responses. Physiological responses to cannabinoids may vary among individuals. Some of the effects of cannabinoids have been shown to impact nervous system functions, immune responses, muscular motor functions, gastrointestinal maintenance, blood sugar management, and the integrity of ocular functions. Our product candidate, MIRA1a, has a strong selectivity for CB2 versus CB1, and is designed to minimize the risk of psychoactive adverse events associated with CB1 activation. On November 28, 2022, the U.S. Drug Enforcement Agency, or DEA, confirmed in writing that it conducted a scientific review of the chemical structure of MIRA1a in accordance with the definitions within the CSA and its implementing regulations and determined that MIRA1a is not a controlled substance or listed chemical.

Mechanism of Action of MIRA1a

We believe that the effects of MIRA1a at the cannabinoid receptors CB1 and CB2 is predicted to account for the majority of its potential therapeutic effects, especially as it relates to its anti-anxiety, anti-pain and anti-inflammatory properties. For example, the difference in the dose-response effects of MIRA1a compared with THC on CB1 receptors appears to coincide with its improved therapeutic profile.

THC is notorious for having biphasic physiological effects, which have been described for over 40 years: at low levels THC has positive effects while high doses cause the opposite, undesirable symptoms. Examples of biphasic effects at low versus high levels of THC include the anti-anxiety versus pro-anxiety effects, respectively. In a study performed by Eurofins DiscoverX, a third party contract research organization, or CRO, we obtained the following dose-response effects for MIRA1a and THC at the CB1 receptor (see figure below). In contrast to THC, which displays an initial maximally stimulatory and then inhibitory response at CB1, the study suggests that MIRA1a appears to act as a monophasic partial agonist where it is stimulatory throughout its dose range, achieving a moderate activation of the CB1 even at high doses. We believe that this accounts for the potential broad therapeutic efficacy of MIRA1a and the observed absence of negative symptoms even at maximal doses of the drug.

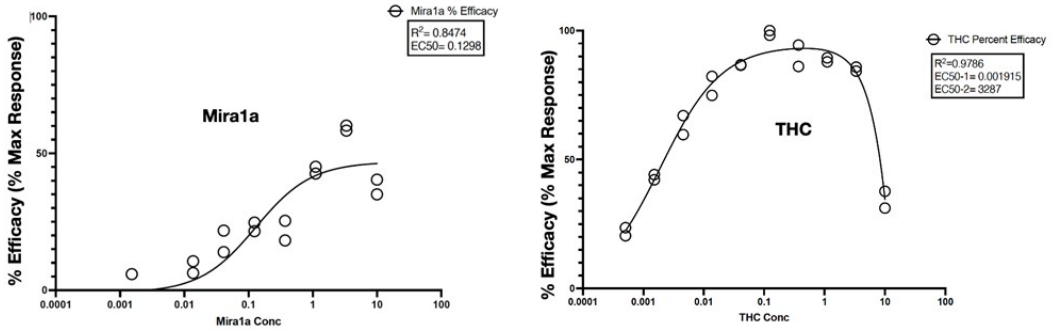


Figure: Compound activity with the selected GPCR Biosensor Assays:
THC vs MIRA1a agonist activity at the CB1 Receptor.

In the Eurofins DiscoverX study, compounds were tested in agonist and antagonist mode with a GPCR Biosensor Assays. For agonist assays, data was normalized to the maximal and minimal response observed in the presence of control ligand and vehicle. This system was used to test THC vs MIRA1a agonist activity at the CB1 receptor.

Unlike CB1 receptors, which mediate many of the psychotropic effects of cannabinoids on the CNS, CB2 receptors are present on cells of the immune system. Based on preliminary results of our GPCR biosensor assays, the agonist effects of MIRA1a on CB2 receptors are potentially 8-fold more potent than THC and 30-fold more potent than CBD. Activation of CB2 receptors is currently believed to have potential therapeutic implications for inflammatory, autoimmune, and neurodegenerative conditions.

In pharmacology, "efficacy" or "Emax" refers to the maximum response that can be achieved with a drug or agent. It represents the extent or magnitude of the response produced by the drug once it has bound to its target, typically referred to as a receptor. The binding between a drug and its receptor is characterized by affinity, which quantifies the strength of their interaction. Efficacy, however, assesses the action or effect of the drug following binding to the receptor.

The dose-response curve is a commonly used graph in pharmacology that depicts the relationship between the effect of a drug and its dosage. The X-axis represents the increasing doses of the drug, while the Y-axis represents the response produced by the drug. In the case of the figure above, the term "% Efficacy" on the Y-axis refers to the maximum response that can be achieved with the agonist (MIRA1a or THC) in relation to its ability to activate GPCR receptors (specifically CB1 receptors).

The data presented in the figure above has been normalized to the maximal and minimal responses observed in the presence of a control compound and vehicle, respectively. This normalization allows for a standardized comparison of the agonist's efficacy.

The above-described study regarding the ability of MIRA1a vs THC vs CBD to activate CB2Receptors and alter intracellular cAMP levels was performed by Eurofins DiscoverX as a cAMP Assay, which is a cell-based assay that measures the cAMP levels in cells as a direct indication of GPCR functional status.

As can be seen in the table below, the EC50 (*i.e.* concentration required to induce a half maximal response) for MIRA1a was 8 times more potent than THC and at least 30 times more potent that CBD—*i.e.* it only took 1 uM of MIRA1a to induce the same response that required 8 uM of THC and >30 uM of CBD.

Compound Name	Assay Name	Assay Format	Assay Target	Result Type	EC50	Unit
MIRA-1A	cAMP	Agonist	CNR2/CB2	EC50	1.008462	uM
THC	cAMP	Agonist	CNR2/CB2	EC50	8.209884	uM
CBD	cAMP	Agonist	CNR2/CB2	EC50	>30	uM

The foregoing measurements were performed as follows:

DiscoverX has developed a panel of cell lines that stably express non-tagged GPCRs (G-protein coupled receptors) capable of signaling through cAMP. The Hit Hunter® assay platform is used to investigate the functionality and response of these GPCRs.

In the case of the CB2 receptor, which is a GPCR involved in various physiological processes and has potential therapeutic implications, the Hit Hunter® assay

can be employed to study the effects of drug agonists on CB2 receptor activity.

Regarding the application to a drug agonist at the CB2 receptor, which primarily signals through Gαi protein subunits and leads to a decrease in cAMP levels, the Hit Hunter® assay may not be directly applicable. The decrease in cAMP levels mediated by Gαi signaling is not typically measured in this particular assay format.

To measure the half maximal response (EC50) of CB2 receptor activation by a drug agonist that leads to a decrease in cAMP levels, an alternative approach may be required. One common method involves using forskolin, an activator of adenylate cyclase, to stimulate cAMP production. Forskolin bypasses the GPCR signaling and directly activates adenylate cyclase, resulting in increased cAMP levels.

In the presence of forskolin, the drug agonist at the CB2 receptor can then be tested at various concentrations to determine its ability to inhibit the forskolin-induced cAMP production. The drug's concentration that leads to a 50% reduction in forskolin-stimulated cAMP levels can be considered the half maximal response or EC50.

Pre-Clinical Developments and Studies

As of the date of this prospectus, we have completed several pre-clinical studies of MIRA1a, including, but not limited to, computational mutagenicity analysis, radio-ligand binding assay, elevated plus maze ("EPM") model of anxiety, hot plate model thermal sensitivity testing, context fear conditioning model of cognition, and rat Psychomotor Vigilance Test ("PVT") of Cognition.

We have studied the effects of acute administration of MIRA1a on anxiety-related phenotypes in mice to model human conditions. An intraperitoneal injection of Placebo [PBO] (e.g. saline) or MIRA1a (e.g. 50mg/kg = Treatment) was administered to C57Bl/6 mice (n=5/group) that were 8-12 weeks old. Thirty minutes following injection, mice were tested in anxiety related measures using the Elevated Plus Maze (EPM). The EPM is a widely used pre-clinical behavioral assay for rodents and it has been validated to assess the anti-anxiety effects of pharmacological agents. We found that MIRA1a has anti-anxiety activity at doses that lacked side effects of sedation or intoxication in mice. The EPM is a test measuring anxiety in rodents as a screening test for putative anxiolytic compounds and as a general research tool in neurobiological anxiety research such as Generalized Anxiety Disorder (GAD) or Post-Traumatic Stress Disorder (PTSD). The model is based on the animal's aversion to open spaces which are present in the open arms (Open Arm) of the maze. Anti-anxiety effects of test agents are demonstrated by an increase in the percentage of time spent in the Open Arm with treatment compared to placebo. The total distance traveled is a measure of the overall level of arousal and mobility of the mice undergoing testing on the EPM and is used to rule out any sedating or intoxicating effects of the test agent.

Pre-clinical studies also have shown the potential of MIRA1a for relieving pain. A number of clinically approved pharmacological agents used to treat pain, including opioids, have been demonstrated to delay or ameliorate the onset of heat sensitivity upon paw exposure of mice to heat. Thirty minutes after treatment with either a placebo (control) or MIRA1a, mice were placed on a heated plate to measure the time it took for each mouse to lift its paw in response to the mild pain they felt from the heat. Mice treated with pain alleviating drugs took significantly longer to become bothered by the heat and to lift their paws. Similarly, mice treated with MIRA1a took statistically significantly more time to lift their legs, indicating MIRA1a's potential effectiveness as a possible treatment for pain in this model.

MIRA1a is a CB2 agonist which may be an optimal treatment for neurodegenerative diseases associated with neuroinflammation caused by microglial activation. CB2 agonism has been shown in pre-clinical studies to regulate neuroinflammatory processes, reducing the neuronal damage characteristic of degeneration. We believe there may be a strong rationale for CB2 agonism in neurodegenerative diseases, given increased CB2 expression in patients with these diseases as well as preliminary results from animal models. We see potential for a potent CB2 agonist to treat a range of neurodegenerative diseases. MIRA1a, through its robust activity at CB2 compared to CB1, was designed to minimize the risk of psychotropic adverse events associated with CB1 activation.

Our pre-clinical development program for MIRA1a has included a variety of testing. Summarized below are the tests we have completed. Our interpretation of results derived from pre-clinical data or our conclusions based on our pre-clinical data may prove inaccurate and are not necessarily predictive indicators of future results.

Completed Pre-Clinical Tests*
• EPM model of anxiety • Thermal Sensitivity Model of Pain • Context Fear Conditioning Model of Cognition—Test of learning and memory. • Rat Psychomotor Vigilance Test ("PVT") of Cognition—Test of attention.
*These were non-human studies that were not powered for statistical significance and, as such, no p-values are available.

- EPM Model of Anxiety Test:
  - Method: We studied the effect of acute administration of MIRA1a on anxiety-related phenotypes in mice to model human conditions.
    - An intraperitoneal (i.p.) injection of Placebo (e.g. saline) or MIRA1a (e.g. 50mg/kg = Treatment) was administered to C57Bl/6 mice (n=5/group) that were 8-12 weeks old
    - 30 minutes following injection, mice were tested in anxiety related measures using EPM
  - Outcome: The following chart demonstrates MIRA1a's anti-anxiety effects:

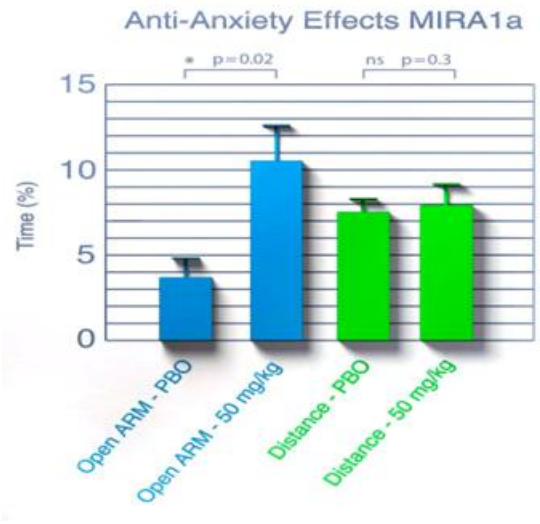


Figure: Effects of MIRA1a vs Placebo Treatment on Mouse Behavior in the Elevated Plus Maze.

The Elevated Plus Maze is a widely used behavioral test to assess anxiety-like behavior in rodents. Typically, rodents tend to avoid open spaces due to their natural aversion to potentially dangerous areas. Therefore, spending more time in the open arms of the maze indicates decreased anxiety-like behavior. Similarly, the total distance travelled can reflect general locomotor activity and exploratory behavior, which can be influenced by the state of anxiety and the effect of drugs. The Elevated Plus Maze (EPM) apparatus consists of two open arms and two enclosed arms elevated above the floor. Blue Bars represent the percentage of time spent in the open arms by mice in the placebo and drug-treated groups. Green Bars show the total distance travelled by mice in both groups during the EPM test.

- Thermal Sensitivity Model of Pain:
  - Method: We studied the potential for pain reduction in pre-clinical models of heat tolerance using a hot plate methodology.
  - Outcome: MIRA1a provided significantly delayed thermal sensitivity and enhanced pain tolerance.

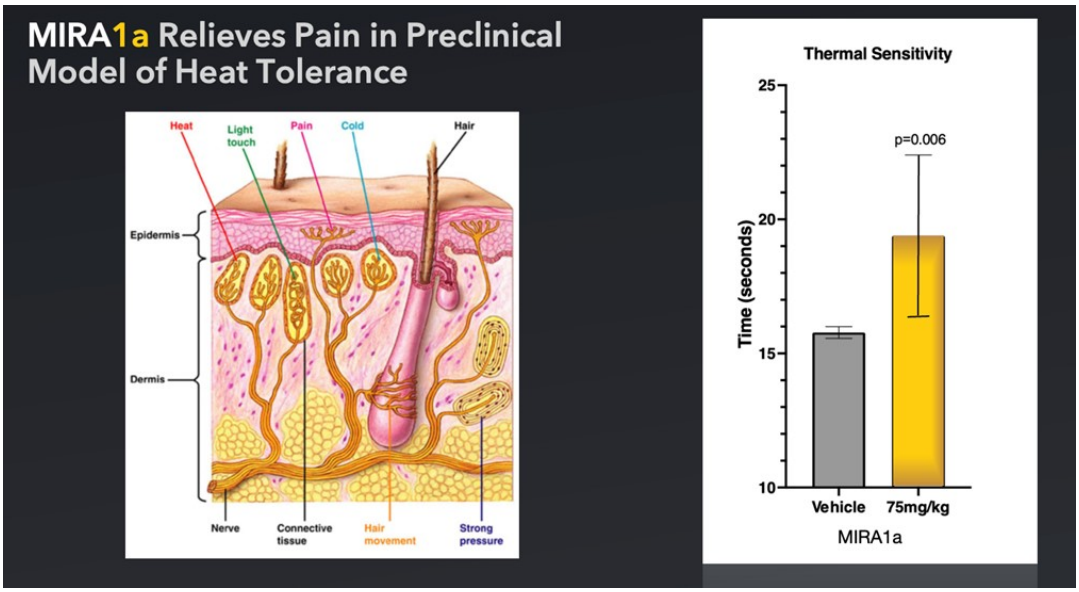


Figure: In the above thermal sensitivity test, mice are placed on a heated metal plate (e.g. 52C-55C degrees). The time taken for the mouse to show a pain response – licking or shaking of the paws, jumping, or trying to escape from the hot plate – is measured. This time interval is known as the 'hot-plate latency'. A longer latency is indicative of reduced pain sensation or a higher pain tolerance.

The Thermal Sensitivity Model of Pain in mice is a widely used experimental approach to study nociception, which is the perception of pain. In this model, thermal stimuli are applied to the hind paws of mice to assess their sensitivity to heat-induced pain. The procedure typically involves placing the mouse on a temperature-controlled surface, such as a hot plate or a radiant heat source. The temperature is gradually increased, and the response of the mouse is measured, such as the latency to withdraw its paw from the heat source. The withdrawal latency is considered an indicator of pain sensitivity, with shorter latencies indicating greater sensitivity. By comparing the response of normal mice to that of mice with altered pain sensitivity, such as genetically modified mice or mice treated with analgesic drugs, researchers can gain insights into the mechanisms underlying pain perception and potential therapeutic interventions. The Thermal Sensitivity Model of Pain in mice provides a controlled and reproducible method for studying thermal nociception, allowing researchers to investigate the effects of various genetic, pharmacological, and environmental factors on pain sensitivity. This model has contributed significantly to our understanding of pain pathways and the development of novel analgesic treatments.

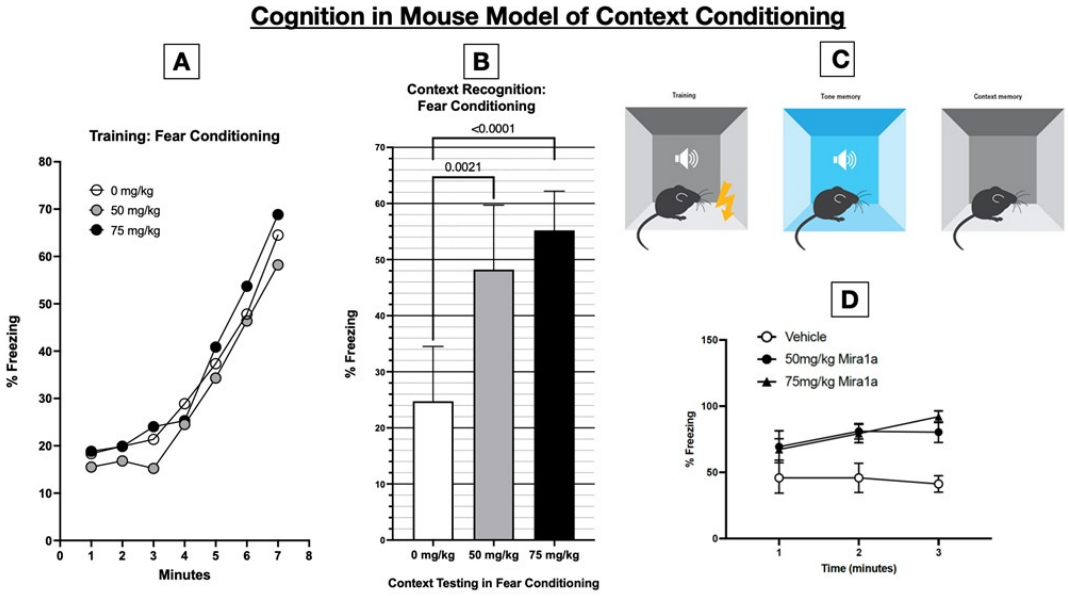
As performed at Johns Hopkins, in our thermal sensitivity test, which measured sensitivity to thermal pain, MIRA1a significantly increased the time it took mice to lift their legs in comparison to placebo ($p=0.006$) at 75mg/kg. This indicates that MIRA1a has an analgesic effect and may be a potential treatment for pain. Each group (*i.e.* placebo and 75 mg/kg) was comprised of 9 mice, for a total of 18 mice.

The issue of how to test the effect of MIRA1a on cognition was complicated by the following:

- MIRA1a has anti-anxiety (i.e. anxiolytic) effects, and
- anxiolytics can potentially improve cognitive assessment outcomes by reducing anxiety levels that may otherwise hinder cognitive functioning.

Therefore, in commonly performed tests of cognition in mice, such as novel object recognition and Morris water maze, anxiolytic medications can indirectly result in improved performance by decreasing anxiety rather than by directly improving cognition. In order to separate assessments of the impact of MIRA1a on cognitive performance from its demonstrated anti-anxiety effects, we employed a model of context fear conditioning wherein we dosed the mice after training. Context fear conditioning in mice is a behavioral paradigm used to measure cognitive processes related to associative learning and memory. Associative learning, where an individual learns to associate specific stimuli or contexts with particular outcomes, in this case the mice associate being in a specific chamber with receiving a mild foot shock that occurs during training the day before testing. This process of forming associations between stimuli, actions, and consequences is involved in numerous skills and behaviors in everyday life: it underlies learning new skills, developing habits, and acquiring knowledge through experiences and conditioning. The use of associating the chamber with the foot shock on day one, means that when the mice are returned to the chamber on day 2 a measure of how much freezing they do corresponds to a read out of how well they can recall the experiences they had during training on day 1 (i.e. the greater the freezing, the better the recollection of the association between the chamber and food shock). Since the mice are given MIRA1a AFTER training that takes place on day 1, and only before testing on day 2, there is no concern about the anxiolytic effects of MIRA1a on learning during training, but rather this model tests MIRA1a's effects on performance only—which in this case represents memory (i.e. the ability to recognize and recall the chamber where they had previously been shocked) and to translate that into an associated behavior (i.e. freezing). As published in the Journal of Neuropharmacology in 2023, THC and cannabis impair context fear conditioning, both when given prior to training (because of its anti-anxiety effects) and when given prior to testing (because of its cognitive impairing effects). As demonstrated in the figure below, MIRA1a resulted a dramatic effect on cognitive performance in the context fear conditioning model: as shown in B, the second panel from the left, the percentage of time spent freezing—that is a demonstration of their memory and association—in the mice who received MIRA1a at a dose of 75 mg/kg was more than twice that of those who received 0 mg/kg=placebo (i.e. 55% vs 25%). Thus, MIRA1a doubled the cognitive performance of the mice compared to placebo. This degree of improvement in cognitive performance in healthy mice dosed just prior to testing and after learning has not been demonstrated with any cannabinoid compound previously.

- Context Fear Cognition Model of Cognition:
  - Method: We studied the potential for improving recall in healthy mice using a fear conditioning model.
  - Outcome: MIRA1a sharply improves cognitive recall as dosage rises.



The Contextual Fear Conditioning Model of Cognition in mice is an experimental paradigm used to study associative learning and memory processes. It focuses on the ability of mice to form an association between a specific environmental context and an aversive stimulus, which leads to the acquisition and subsequent retrieval of contextual memories. During the acquisition phase of the model, mice are exposed to a distinct context, such as a particular chamber or environment. In this context, they receive an aversive stimulus, typically a mild foot shock. The presentation of the foot shock creates an association between the contextual cues and the aversive experience.

Following the acquisition phase, the mice undergo a testing phase to assess their memory of the association between the context where they received the foot shock and the memory of the aversive stimulus. They are returned to the same context where the conditioning took place and their behavioral responses, particularly fear-related behaviors such as freezing or defensive reactions, are measured. These behavioral responses serve as indicators of the mice's ability to retrieve the associative memory formed during the acquisition phase.

The Contextual Fear Conditioning Model of Cognition in mice has been widely used in neuroscience research to explore the mechanisms of associative learning, memory formation, and the neural circuits involved in fear-related associations. It has contributed to our understanding of how animals, including humans, learn to associate environmental cues with aversive experiences, and has implications for understanding and treating conditions related to associative learning, memory deficits, and emotional disorders.

As performed at Johns Hopkins, in the Contextual Fear Conditioning Model, the data shows that during training (in the absence of any treatment), the mice learned as indicated by increased freezing over time. The following day, 30 minutes after MIRA1a administration, the mice were tested in the context test, which showed significantly increased % freezing ($p=<0.0001$) in females given 50mg/kg or 75mg/kg MIRA1a. The experiments were conducted with 10 mice in each group (placebo, 50 or 75 mg/kg MIRA1a) for a total of 30 mice.

In the context conditioning figure above, mice learn to associate the neutral context (the chamber) with the aversive stimulus (the foot shock), leading to a conditioned fear response (freezing). This is indicated by 'freezing' behavior - a fear-related response in mice characterized by immobility except for respiratory movements.

A timeline of the experimental procedure, indicating acclimatization, training (conditioning), and testing phases is shown above. Panel A, the left-most panel, shows that on day 1 the pairing of a neutral context (the conditioning chamber shown in panel C) with an aversive stimulus (a mild foot shock). With successive foot shocks the mice show increasing amounts of freezing, since they instinctively freeze in anticipation of being shocked. Panel B, titled "Context Recognition: Fear Conditioning," shows the percentage freezing the mice did on day 2 after receiving placebo or MIRA1a just prior to being placed in the same chamber they had been shocked on day 1. Since mice freeze in anticipation of receiving a shock, the relative amount of freezing in those mice given 0 mg/kg (placebo) vs either 50 or 75 mg/kg MIRA1a is a readout of (i.e. proportional to) how well the mice recalled that the chamber they were returned to was the one in which they had been shocked. As shown in panel B, the mice who received 75 mg/kg of MIRA1a right before being placed into the chamber showed 200% of the freezing than did the mice who received placebo (55% vs 25%, respectively. Panel D, in the lower right corner of the figure, shows that at 1 min after being placed in the chamber on day 2, the mice that got vehicle (=0 mg/kg MIRA1a), relative to those that got MIRA1a, have much less freezing, and in fact have less freezing over time. The mice given MIRA1a start off with better recognition and recall of the chamber (demonstrated as increased freezing) at 1 minute and increase the association of the chamber with the prior shocks (because they increase freezing over time).

Because MIRA1a is an anxiolytic, we still wanted to determine if it could impair attention—a different aspect of cognition than memory, recall and associative learning, and one that is affected negatively by sedating compounds (e.g. THC, Cannabis, benzodiazepine, etc.) and positively by stimulants (e.g. caffeine, nicotine, amphetamine) In order to assess whether MIRA1a affected attention as compared to THC required a different testing model—Psychomotor Vigilance Test (PVT). The rat Psychomotor Vigilance Test (rPVT) is a widely used method to measure sustained attention in rodents. In the rPVT model, rats are trained to respond to a visual stimulus by pressing a lever, with shorter reaction times indicative of better attentional performance. Mice with longer reaction times or higher variability in response times may be considered to have attention deficits or altered vigilance. Data is shown as percentage accuracy at pressing the lever within the allowed reaction time vs dose of drug used. In the figure below, it can be seen that at doses of THC that impair attention, MIRA1a had no negative effects on attention (i.e. their accuracy at pressing a lever at the right amount of time after receiving a trained cue was not impaired at all).

- Rat PVT of Cognition
  - Method: We performed a PVT to evaluate simple reaction time.
  - Outcome: MIRA1a does not impair cognition. At 3 mg/kg and 10 mg/kg MIRA1a causes minimal impairment in rat PVT whereas THC has a clear negative effect even at these low doses.

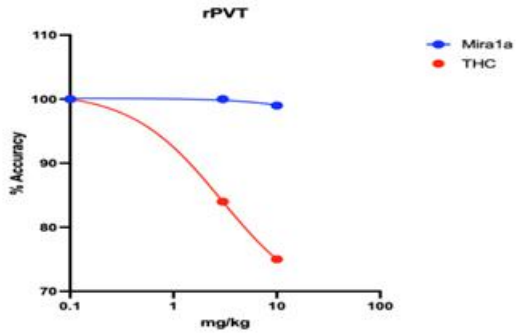


Figure: Comparison of MIRA1a versus THC on Psychomotor Vigilance Test (PVT) Performance in Rats. The figure displays the percentage accuracy of rats in the Psychomotor Vigilance Test (rPVT) following administration of MIRA1a (blue) or THC (red). The y-axis represents the percentage accuracy (% Accuracy), indicating the proportion of correct responses in the PVT task. The x-axis represents the treatment condition, with increasing amount of compound being given to the rats before testing. The data shows that rats treated with MIRA1a exhibited no decrease in percentage accuracy compared to the THC group ($p < 0.05$). The results indicate that administration of MIRA1a had no negative impact on attention performance in the PVT task, as evidenced by the maintenance of 100% accuracy across the dosage range, compared to THC that impaired attention leading to decreased accuracy more and more with increasing dosages.

Therefore, the combination of cognitive assessments demonstrated the following: despite having anxiolytic effects, 1) MIRA1a significantly improved associative learning, memory and recall in the context fear conditioning model, and 2) MIRA1a had no negative effects on attention at doses that THC showed significant impairment. This is the first time a cannabinoid has been shown to enhance (rather than inhibit) cognition when given to normal healthy mice after training but before testing, demonstrating a specific cognitive improvement as a direct effect on the brain that is independent of indirect effects—such as with acute administration by decreasing anxiety or with long term administration by having anti-inflammatory effects in neurodegenerative diseases.

The Psychomotor Vigilance Test (PVT) is a behavioral test used in rats to assess attention and speed of response, providing insights into their vigilance and cognitive performance. It is based on the measurement of reaction times to visual stimuli, typically presented in a simple reaction time task paradigm. In the PVT, rats are typically placed in an operant chamber or testing apparatus equipped with a visual stimulus, such as a light or LED. The rats are trained to perform a specific response, such as pressing a lever or nose-poking, when the visual stimulus appears. The timing of the visual stimuli is randomized to prevent predictability and maintain the animals' attention. During the test, the rats are required to pay attention to the visual stimuli and respond as quickly as possible when they appear. The reaction time, which represents the time it takes for the rat to initiate the response upon stimulus presentation, is recorded. This measure reflects the speed of response and can provide an indication of the rat's attentional state and ability to sustain attention over time. By analyzing the reaction time data, researchers can evaluate the rat's attentional performance, including measures such as mean reaction time, variability in response times, and the occurrence of lapses or errors. The PVT has been widely used to investigate the effects of different manipulations, such as pharmacological interventions that cause sedation, sleep deprivation, or experimental treatments, on attention, alertness, and cognitive performance in rats.

At Johns Hopkins, MIRA1a was tested in the rPVT using a within subject design (i.e., each rat received all 5 doses of MIRA1a, 2 doses of THC, and vehicle and serves as its own control). Sprague Dawley rats (n=22, 50% female) were trained to perform the rPVT to acquisition criteria (>70% accuracy). Several rats failed to meet criteria or did not have baseline performance stable enough to receive all doses of MIRA1a; therefore the final number of rats used in the study was 17, and this group was treated with THC and then a month later by MIRA1a.

In 2023, our pre-clinical work will include the conduct of several other pre-clinical studies and initiation of a 7-day maximum tolerated dose study of MIRA1a in rats and dogs.

Status	Planned Activity
Drug Substance Preparation	● Analytical Development ● NonGMP Production Refinement ● GMP Production Refinement
Testing	● Maximum Tolerated Dose (MTD)/7D Dose Range Finding (DRF) Dog ● MTD/7D DRF Rat ● Dog 28-day Toxicology ● Rat 28-day Toxicology ● Cardiovascular Study Dog (Telemetry) ● Respiratory Study Rat ● hERG (Manual Patch-Clamp) ● Neurobehavioral Evaluation Rats ● Neurobehavioral Evaluation Mice

We further plan on neurobehavioral evaluation of orally and intraperitoneal administered MIRA1a in rats and mice, respiratory evaluation of orally administered MIRA1a in rats, and *in vitro* testing for effects of MIRA1a on hERG (the human Ether-à-go-go-Related Gene) channel currents. The hERG is an early *in vitro* assay required by the FDA to alert companies of any potential cardiac abnormalities by the product before proceeding with dose studies in humans. hERG is a gene that codes for a protein known as the alpha subunit of a potassium ion channel. This ion channel (sometimes simply denoted as 'hERG') is best known for its contribution to the electrical activity of the heart: the hERG channel mediates the repolarizing current in the cardiac action potential, which helps coordinate the heart's beating. When this channel's ability to conduct electrical current across the cell membrane is inhibited or compromised, either by application of drugs or by rare mutations in some individuals, it can result in a potentially fatal disorder called long QT syndrome.

Testing is anticipated to conclude in the first quarter of 2024. Additionally, a 28-day toxicology analysis for dogs and rats is expected to begin at the end of the fourth quarter of 2023 and continue through the first quarter of 2024.

We have started the analytical development and manufacturing of MIRA1a as of January 2023. By the third quarter of 2023, we anticipate our suppliers will be developing MIRA1a at scale and manufactured under cGMP conditions, expanding on earlier non-GMP volumes of MIRA1a for use in our initial testing programs. We plan to work closely with our suppliers to generate sufficient volumes of cGMP-grade MIRA1a materials for the planned pre-clinical toxicity programs, expanded animal testing and human trials expected to be performed in 2024, subject to FDA approval.

Our Clinical Development Program

Following the pre-clinical development plan outlined above, we plan to submit to the FDA an Investigational New Drug application ("IND") focused on investigating MIRA1a for the treatment of anxiety and cognitive decline in elderly patients.

Our first IND application submission investigating MIRA1a for the treatment of elderly patients suffering from anxiety with some cognitive decline is currently planned for the end of the third quarter of 2024, as we believe this is a patient population with unmet needs. If allowed to proceed by the FDA, a Phase I trial will be initiated 30 days post-IND submission. After the Phase I trial is complete, a Phase II trial will be considered.

Our second IND application will focus on investigating MIRA1a for the treatment of chronic pain.

All development plans depend on FDA acceptance of our IND applications. As appropriate and pursuant to discussions with the FDA, we may periodically adjust the timeline for certain filings and associated clinical trials. It is important to note that the process for conducting clinical trials is uncertain and there is no assurance that our clinical development activities will meet the planned timelines set forth above.

Manufacture of Product for Clinical Development Activities

Curia Global (formerly AMRI), a leading global CDMO, is currently developing a large-scale synthesis protocol for us and will be supplying quantities of MIRA1a needed for our pre-clinical and clinical development activities. We are currently in discussions with other partners to have MIRA1a formulated into solid oral dosage forms for clinical trials.

Market Opportunity

MIRA1a, if approved by FDA, will compete in three key overlapping growth markets: the anxiety, cognitive decline (CNS/dementia), and chronic pain markets, where multiple products with varying safety and efficacy profiles are already on the market. MIRA1a competes at the intersection of these three markets given the target patient profile for MIRA1a.

MIRA1a will compete primarily within the central nervous system ("CNS") market that encapsulates anxiety, dementia, other pain, Alzheimer's, migraines and related conditions. Based on the market size of the CNS opportunity as set forth in IQVIA's *Global Use of Medicines 2023* analysis (the "IQVIA Report"), we estimate that by 2027, the U.S. CNS market will be worth $48 billion, growing between two and five percent during the period from 2023 to 2027. Within that market opportunity, anxiety is worth between approximately $10 billion and $15 billion in annual sales.

Anxiety and pain are expected to grow approximately five percent over the same period according to the IQVIA Report, while Alzheimer's is expected to grow approximately twelve percent. This is critical given MIRA1a's focus on early-stage patients with dementia, as according to the Alzheimer's Association *2023 Alzheimer's Disease Facts and Figures* analysis (the "Alzheimer Association"), 0.5 million new Alzheimer cases emerge in the U.S. each year. According to the Alzheimer Association, about 60 to 80 percent of Alzheimer cases evolve into dementia. Thus, Alzheimer case directions are an important signal and gateway for MIRA1a-related opportunities in dementia. Based on that epidemiology, the US Center for Disease Control ("CDC") estimates that approximately 5.8 million Americans are living with Alzheimer's, with that number expected to grow to 14 million by 2060 ("CDC Alzheimer").

The other key market for MIRA1a will be the traditional U.S. pain market, which the IQVIA Report estimates will be worth $42 billion in 2027 and grow between three and six percent during the forecast period. Note that this sizing is inclusive of chronic and acute pain, and MIRA1a is likely to only be used in the chronic segment of the market (approximately 40% to 50% of the market). Factors such as a rise in oncology related pain, diabetic neuropathy, and pain associated with aging (e.g. joint pain) are among the key drivers of patient and prescription growth. Opioid toxicity and related annual deaths suggest a novel non-opioid pain killer is needed.

Our initial focus will be a dual path: potentially winning in traditional markets as well as the marijuana analog markets using a safe, effective and, if determined by the FDA, an FDA-approved treatment option since safety and efficacy determinations are in the exclusive purview of the FDA. Today, legal medical marijuana is a $13.2 billion industry whereas legal recreational marijuana is a $25.6 billion industry. Both are sub-sets of the traditional pain and anxiety markets. However, in many patient populations, non-US legal, and cultural settings, marijuana may not be the first or a viable option for treatment of neurological disorders. As a result, these patients will typically use non-steroidal anti-inflammatory drugs (NSAIDs) or various mood management drugs, opening them up to a range of non-ideal outcomes. The objective of MIRA1a is to offer physicians and patients with an approved, viable synthetic option. Thus, if approved by the FDA, we believe that MIRA1a may potentially provide a preferred alternative in such patient populations, as it is not derived from the cannabis plant.

Our Strategy

Our goal is to develop therapeutics targeting well-characterized CB1 and CB2 receptors with optimized pharmacological properties to transform the lives of patients with neurological diseases. Key elements of our strategy to achieve this goal include:

- Advance MIRA1a through clinical development and approval.
- Continue pre-clinical development of MIRA1a across a range of CNS diseases associated with neurodegeneration and progress into clinical development.
- Identify additional product candidates and expand our current candidate into additional neurological diseases.
- Explore strategic collaborations to maximize the value of our product candidates.

Intellectual Property

Our company owns U.S. Patent 10,787,675 B2, titled "Purified Synthetic Marijuana and Methods of Treatment by Administering Same," which covers the MIRA1a compound *per se* as a racemic mixture, an isolated R-enantiomer, or an isolated S-enantiomer, as well as pharmaceutical formulations of the compound. This patent also covers MIRA1a in methods of treating Alzheimer's disease, anxiety, depression, and addictions.

Foreign patents covering MIRA1a and its therapeutic uses have issued in Australia, Belgium, Canada, Czech Republic, France, Germany, Greece, Netherlands, Hungary, Ireland, Israel, Italy, Malta, Poland, Portugal, Romania, South Korea, Spain, Sweden, and the United Kingdom, and corresponding applications are pending in China and Japan. MyMD Pharmaceuticals, Inc. (Nasdaq: MYMD, "MyMD"), a publicly traded corporation, currently owns these foreign patents and patent applications. We currently have no plans to develop the MIRA1a compound for approval and commercialization outside of the United States or for manufacture outside of the United States, including in the foreign jurisdictions in which MyMD has patent rights. We may in the future seek an agreement to license or purchase all or a portion of such foreign patent rights from MyMD, but we have no current plans to do so and there is no assurance that we would be able to successfully conclude such an agreement. MyMD's foreign patent rights would not preclude us from pursuing the development, manufacture, approval, or commercialization of the MIRA1a compound in foreign jurisdictions in which MyMD does not have patent rights, such as India, if we chose in the future to pursue such activities. See "Risk Factors— Risks Related to Our Intellectual Property — We own the rights associated with our patents in the United States, but we do not own the rights to patents covering MIRA1a in foreign jurisdictions."

Notwithstanding the foregoing, we have a worldwide perpetual, royalty free, non-exclusive license from MyMD to use MyMD's Supera-CBD™, a different compound from MIRA1a, as a synthetic intermediate in the manufacture of MIRA1a. Except for this license, we do not license any patent rights or other intellectual property for MIRA1a from third parties.

Summary Risk Factors

There are a number of risks that you should understand before making an investment decision regarding this offering. These risks are discussed more fully in the section entitled "Risk Factors" following this prospectus summary. If any of these risks actually occur, our business, financial condition, or results of operations would likely be materially and adversely affected. In such a case, the trading price of our common stock would likely decline, and you may lose all or part of your investment. These risks include, but are not limited to:

- We are development-stage company that has no revenues and has incurred losses since our inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability.
- Our limited operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.
- We are dependent on the success of our product candidates, some of which may not receive regulatory approval or be successfully commercialized.
- We face risks related to health, pandemics, epidemics, and outbreaks, including the novel coronavirus ("COVID-19"), which could significantly disrupt our pre-clinical studies and clinical trials, commercialization efforts, supply chain, regulatory and clinical development activities, and other business operations, in addition to the impact of a global economic slowdown.
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- We may fail to expand our anticipated outsourced manufacturing capability in time to meet market demand for our products and product candidates, and the FDA may refuse to accept the facilities of our contract manufacturers as being suitable to produce our products and product candidates. Any problems in our manufacturing process could have a material adverse effect on our business, results of operations and financial condition.

- Our future success will largely depend on the success of our product candidates, which development will require significant capital resources and years of clinical development effort.

- There is a high rate of failure for drug candidates proceeding through clinical trials.

- The legalization and use of medical and recreational marijuana in the U.S. and elsewhere may impact our business.

- We rely on, and expect to continue to rely on, third parties to conduct clinical trials for our product candidates. If these third parties do not successfully carry out their contractual duties, comply with regulatory requirements or meet expected deadlines, we may not be able to obtain marketing approval for or commercialize our product candidates, and our business could be substantially harmed.

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- We rely on third parties to manufacture our clinical product supplies, and we intend to rely on third parties for at least a portion of the manufacturing process of our product candidates, if approved. Our business could be harmed if those third parties fail to provide us with sufficient quantities of product or fail to do so at acceptable quality levels or prices or fail to maintain or achieve satisfactory regulatory compliance.

- Even if any of our product candidates receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors, and others in the medical community necessary for commercial success.

- I f we are unable to obtain and maintain intellectual property protection for our technology and products, or if the scope of the intellectual property protection obtained is not sufficiently broad, our competitors could commercialize technology and products similar or identical to ours, and our ability to successfully commercialize our technology and products may be impaired.

Implications of Being an Emerging Growth Company

As a company with less than $1.235 billion in annual gross revenue during our last fiscal year, we qualify as an "emerging growth company" as defined in Section 2(a) of the Securities Act of 1933, as amended (the "Securities Act"). An emerging growth company may take advantage of specified reduced reporting and other requirements that are otherwise applicable generally to public companies. These provisions include:

- we are required to present only two years of audited financial statements and related management's discussion and analysis of financial condition and results of operations in the registration statement of which this prospectus is a part;

- w e are exempt from compliance with the requirement that our independent registered public accounting firm provide an attestation report on the effectiveness of our internal control over financial reporting;

- w e are exempt from compliance with any requirement that the Public Company Accounting Oversight Board (the "PCAOB") has adopted regarding communication of critical accounting matters and may adopt regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;

- we are exempt from the "say on pay," "say when on pay," and "say on golden parachute" non-binding advisory vote requirements; and

- we can provide reduced disclosures about our executive compensation arrangements.

We currently intend to take advantage of each of the exemptions described above. It is possible, therefore, that some investors will find our common stock less attractive, which may result in a less active trading market for our common stock and higher volatility in our stock price.

We may take advantage of these provisions until the last day of our fiscal year following the fifth anniversary of the completion of this offering or such an earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company upon the earliest of: (i) the last day of the first fiscal year in which our annual gross revenues are $1.235 billion or more; (ii) the date on which we have, during the previous three-year period, issued more than $1 billion in non-convertible debt securities; or (iii) the date on which we are deemed to be a "large accelerated filer," which will occur as of the end of any fiscal year in which we (x) have an aggregate market value of our common stock held by non-affiliates of $700 million or more as of the last business day of our most recently completed second fiscal quarter, (y) have been required to file annual and quarterly reports under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), for a period of at least 12 months and (z) have filed at least one annual report pursuant to the Exchange Act.

In addition, emerging growth companies may take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. In other words, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We intend to take advantage of the benefits of this extended transition period. For risks related to our status as an emerging growth company, see "Risk Factors — Risks Related to Ownership of Our Common Stock — Taking advantage of the reduced disclosure requirements applicable to "emerging growth companies" may make our common stock less attractive to investors."

Implications of Being a Smaller Reporting Company

We are a "smaller reporting company" as defined in Item 10(f)(1) of Regulation S-K. Smaller reporting companies may take advantage of certain reduced disclosure obligations, including, among other things, providing only two years of audited financial statements. We will remain a smaller reporting company until the last day of any fiscal year for so long as either: (i) the market value of our shares of common stock held by non-affiliates does not equal or exceed $250 million as of the prior June 30th; or (ii) our annual revenues did not equal or exceed $100 million during such completed fiscal year. To the extent we take advantage of such reduced disclosure

obligations, it may also make comparison of our financial statements with other public companies difficult or impossible.

Reverse Stock Split

Effective June 28, 2023, we completed a reverse stock split of our outstanding common stock upon the filing of our Third Amended and Restated Articles of Incorporation with the Florida Secretary of State. No fractional shares were or will be issued in connection with the reverse stock split, and all such fractional shares resulting from the reverse stock split were and will be rounded up to the nearest whole number. The shares issuable upon the exercise of our outstanding options and warrants, and the exercise prices of such options and warrants, have been adjusted to reflect the reverse stock split. Unless otherwise noted, the share and per share information in this prospectus reflects the reverse stock split.

Corporate Information

Our corporate headquarters is located at 855 N Wolfe Street, Suite 601, Baltimore, Maryland 21205. Our telephone number is 737-289-0835.

Our principal website address is www.mirapharmaceuticals.com. The information contained on, or that can be accessed through, our website is deemed not to be incorporated in this prospectus or to be part of this prospectus. You should not consider information contained on our website to be part of this prospectus.

The Offering

Common stock offered by us	[●] shares.
Initial public offering price	It is currently estimated that the initial public offering price will be between $[●] and $[●] per share.
Shares of common stock outstanding before this offering	13,313,000 shares.
Shares of common stock to be outstanding after this offering(1)	[●] shares (or [●] shares if the underwriters exercise the option to purchase additional shares from us in full. See "Over-allotment Option" below).
Over-allotment Option	We have granted the underwriters an option exercisable for a period of 45 days from the date of this prospectus to purchase from us in whole or in part and at any time or from time to time up to [●] additional shares of common stock, solely to cover overallotments, if any, at a purchase price equal to the initial public offering price less the underwriting discounts and commissions.
Use of proceeds	We estimate that we will receive net proceeds from the sale of shares of our common stock in this offering of approximately $[●] million, assuming an initial public offering price of $[●] per share (the midpoint of the range set forth on the cover of this prospectus), and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering to advance the clinical development of our programs, to fund our research and development activities, and for working capital and general corporate purposes. In order to advance our clinical development programs, we plan to use an estimated $2 million of the net proceeds to fund our preclinical animal toxicology studies, an estimated $1 million for expenses associated with our IND application and an estimated $2.5 million for Phase I clinical trials. Our management will have broad discretion in the application of the net proceeds from this offering and investors will be relying on the judgment of our management regarding the application of the proceeds. See "Use of Proceeds."
Lock up	Our directors, officers, and shareholders who beneficially own 5% or more of the outstanding shares of our common stock have agreed with the underwriters not to offer for sale, issue, sell, contract to sell, pledge or otherwise dispose of any of our common stock or securities convertible into common stock for a period of 180 days, commencing on the date of this prospectus, except with the prior written consent of the underwriters.
Representative's warrants	We have agreed to issue to the representative of the underwriters or its designees at the closing of this offering, warrants to purchase the number of shares of our common stock equal to 5.0% of the aggregate number of shares sold in this offering (the "Representative's Warrants"). The Representative's Warrants will be exercisable at any time and from time to time, in whole or in part, during the four-and-a-half-year period commencing six months after the commencement of sales in this offering. The exercise price of the Representative's Warrants will equal 100% of the initial public offering price per share, subject to adjustments. The registration statement of which this prospectus is a part also covers the Representative's Warrants and the shares of common stock issuable upon the exercise thereof.
Risk factors	Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 14 of this prospectus for a discussion of factors you should carefully consider before investing in our common stock.

(1) The number of shares of our common stock that will be outstanding immediately after this offering is based on 13,313,000 shares of our common stock outstanding as of June 28, 2023.

The number of shares of our common stock to be outstanding after this offering excludes:

- 980,001 shares of our common stock issuable upon the exercise of stock options outstanding as of June 28, 2023, under our 2022 Omnibus Incentive Plan (the "2022 Omnibus Plan") at a weighted-average exercise price of $5.00 per share;
- 1,019,999 shares of our common stock reserved for future issuance under the 2022 Omnibus Plan, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the plan; and
- [●] shares of our common stock issuable to an investor relations consultant upon the completion of this offering.

Unless the context otherwise requires, the information in this prospectus:

- assumes that the shares of our common stock to be sold in this offering are sold at $[●] per share (the midpoint of the range set forth on the cover of this prospectus); and
- assumes no exercise by the representative of its option to purchase additional shares.

Summary Financial Data

The following tables summarize our financial data as of the dates and for the periods presented. We have derived the summary statements of operations data for the years ended December 31, 2022 and 2021, and the balance sheet data as of December 31, 2022 and 2021, from our audited financial statements included elsewhere in this prospectus. We have derived the summary statement of operations data for the three months ended March 31, 2023 and 2022, and the balance sheet data as of March 31, 2023, from our unaudited financial statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in the future.

The following summary financial and other data should be read in conjunction with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included elsewhere in this prospectus.

Statement of Operations data:

	Three months ended March 31,		Year ended December 31,	
	2023	**2022**	**2022**	**2021**
	(Unaudited)		**(Audited)**	
Revenues	$ -	$ -	$ -	$ -
Operating costs:				
General and administrative expenses	614,235	617,234	2,992,125	770,115
Related party travel costs	453,550	374,900	1,704,350	697,600
Research and development expenses	271,606	479,050	2,351,465	684,447
Total operating costs	1,339,391	1,471,184	7,047,940	2,152,162
Interest expense	(1,653)	(3,862)	(10,250)	(24,374)
Net loss	**$ (1,341,044)**	**$ (1,475,046)**	**$ (7,058,190)**	**$ (2,176,536)**

Balance Sheet data:

	March 31, 2023	December 31, 2022	2021
	(Unaudited)	**(Audited)**	
ASSETS			
Current assets:			
Cash	$ 1,349	$ 350,978	$ 2,809,552
Deferred offering costs	189,688	143,427	100,000
Prepaid expenses	60,031	-	-
Total current assets	251,068	494,405	2,909,552
Operating lease, right of use assets	146,512	164,910	-
Related party operating lease, right of use assets	-	198,759	-
Advances to affiliates	-	-	445,612
Total assets	**$ 397,580**	**$ 858,074**	**$ 3,355,164**
LIABILITIES AND STOCKHOLDERS' DEFICIT (EQUITY)			
Current liabilities:			
Trade accounts payable and accrued liabilities	$ 918,618	$ 811,738	$ 228,406
Related party accounts payable	185,786	116,350	547,600
Related party line of credit	219,542	133,062	293,062
Related party accrued interest	36,640	34,987	24,738
Advances from affiliates	685,458	-	-
Current portion of operating lease liabilities	72,806	75,143	-
Related party current portion of operating lease liabilities	-	198,759	-
Total current liabilities	2,118,850	1,370,039	1,093,806
Non-current operating lease liabilities	68,206	84,267	-
Total liabilities	2,187,056	1,454,306	1,093,806
Stockholders' Deficit (Equity)			
Preferred Stock, $0.0001 par value, 10,000,000 shares authorized and none issued or outstanding. -	-	-	

Common Stock, $0.0001 par value; 100,000,000 shares authorized, 13,313,000, 13,313,000 and 12,673,874 issued and outstanding at March 31, 2023, December 31, 2022 and December 31, respectively.	6,657	6,657	6,337
Additional paid-in capital	8,847,630	8,699,830	4,499,550
Accumulated deficit	(10,643,763)	(9,302,719)	(2,244,529)
Total stockholders' deficit (equity)	(1,789,476)	(596,232)	2,261,358
Total liabilities and stockholders' deficit	**$ 397,580**	**$ 858,074**	**$ 3,355,164**

RISK FACTORS

Investing in shares of our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, the section of this prospectus entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included elsewhere in this prospectus before investing in shares of our common stock. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties that we are unaware of, or that we currently believe are not material, may also become important factors that affect us. If any of the following risks occur, our business, operating results and prospects could be materially harmed. In that event, the price of our common stock could decline, and you could lose part or all of your investment.

Risks Related to Our Operations and Financial Condition

We are an early development-stage company with no revenues.

As an early development-stage enterprise that is focused on the development of a pre-clinical pharmaceutical product, we have generated no revenue and have an accumulated deficit of $10.6 million through March 31, 2023 and $9.3 million through December 31, 2022. There can be no assurance that sufficient funds required to pursue our development program will be generated from operations or that funds will be available from external sources, such as debt or equity financings or other potential sources. The lack of additional capital resulting from the inability to generate cash flow from operations, or to raise capital from external sources would force us to substantially curtail or cease operations and would, therefore, have a material adverse effect on business. Furthermore, there can be no assurance that any such required funds, if available, will be available on attractive terms or that they will not have a significant dilutive effect on our existing stockholders.

We seek to overcome the circumstances that impact our ability to remain a going concern in the future through the growth of revenues with interim cash flow deficiencies being addressed through additional equity and debt financing. We anticipate raising additional funds through public or private financing, strategic relationships, or other arrangements in the near future to support our business operations; however, we may not have commitments from third parties for a sufficient amount of additional capital. We cannot be certain that any such financing will be available on acceptable terms, or at all, and our failure to raise capital when needed could limit our ability to continue operations. Our ability to obtain additional funding will determine our ability to continue as a going concern. Failure to secure additional financing in a timely manner and on favorable terms would have a material adverse effect on our financial performance, results of operations and stock price and require us to curtail or cease operations, sell off our assets, seek protection from our creditors through bankruptcy proceedings, or otherwise. Furthermore, additional equity financing may be dilutive to the holders of our common stock, and debt financing, if available, may involve restrictive covenants, and strategic relationships, if necessary, to raise additional funds, and may require that we relinquish valuable rights.

Because we have a limited operating history, you may not be able to accurately evaluate our operations.

We have had limited operations to date. Therefore, we have a limited operating history upon which to evaluate the merits of investing in our company. Potential investors should be aware of the difficulties normally encountered by new companies and the high rate of failure of such enterprises. The likelihood of success must be considered in light of the problems, expenses, difficulties, complications, and delays encountered in connection with the operations that we plan to undertake. These potential problems include, but are not limited to, unanticipated problems relating to the ability to generate sufficient cash flow to operate our business, and additional costs and expenses that may exceed current estimates. We expect to continue to incur significant losses into the foreseeable future. We recognize that if the effectiveness of our business plan is not forthcoming, we will not be able to continue business operations. There is no history upon which to base any assumption as to the likelihood that we will prove successful, and it is doubtful that we will generate any operating revenues or ever achieve profitable operations. If we are unsuccessful in addressing these risks, our business will most likely fail.

We are dependent on additional financing for the continuation of our operations.

Because we have generated no revenues and currently operate at a loss, we are completely dependent on the continued availability of financing in order to continue our business operations. There can be no assurance that financing sufficient to enable us to continue our operations will be available to us in the future.

We will need additional funds to complete further development of our business plan to achieve a sustainable level where ongoing operations can be funded out of revenues. We expect that the proceeds from this Offering will provide adequate resources to fund our operations and initial clinical development programs through at least the fourth quarter of 2024. We will require further funding to fully implement our business plan to its fullest potential and achieve our growth plans. There is no assurance that any additional financing will be available or if available, on terms that will be acceptable to us.

Our failure to obtain future financing or to produce levels of revenue to meet our financial needs could result in our inability to continue as a going concern in the future and, as a result, our investors could lose their entire investment.

Our operating results may fluctuate, which could have a negative impact on our ability to grow our client base, establish sustainable revenues and succeed overall.

Our results of operations may fluctuate as a result of a number of factors, some of which are beyond our control including but not limited to:

- general economic conditions in the geographies and industries where we sell our services and conduct operations; legislative policies where we sell our services and conduct operations;
- the budgetary constraints of our customers; seasonality;
- success of our strategic growth initiatives;
- costs associated with the launching or integration of new or acquired businesses; timing of new product introductions by us, our suppliers and our competitors; product and service mix, availability, utilization and pricing;
- the mix, by state and country, of our revenues, personnel, and assets; movements in interest rates or tax rates;

- changes in, and application of, accounting rules; changes in the regulations applicable to us; and litigation matters.

As a result of these factors, we may not succeed in our business, and we could go out of business.

We have yet to achieve a profit and may not achieve a profit in the near future, if at all.

We have not yet produced any revenues or profit and may not in the near future, if at all. We cannot be certain that we will be able to realize sufficient revenue to achieve profitability. Further, many of our competitors have a significantly larger industry presence and revenue stream but have yet to achieve profitability. Our ability to continue as a going concern in the future is dependent upon raising capital from financing transactions, increasing revenue and keeping operating expenses below our revenue levels in order to achieve positive cash flows, none of which can be assured.

Certain of our executive officers will not be employed by us on a full-time basis.

Erez Aminov, our Chief Executive Officer, Dr. Adam Kaplin, our President and Chief Scientific Officer', and Dr. Chris Chapman, our Executive Chairman, will not be employed by our company on full-time basis. As provided in their respective employment agreements with our company, Dr. Chapman, and Mr. Aminov are expected to devote approximately fifty percent (50%) of their business time to the affairs of our company. Dr. Kaplin is a non-employee consultant to our company and provides consulting services and advice to our company on an at-will and as-needed basis, and he is not obligated to expend a specific minimum number of hours on matters relating to our company. Because each of these officers will not work full time for our company, instances may occur where he may not be immediately available to provide solutions to problems or address concerns that arise in the course of us conducting our business and thus adversely affect our business. In addition, they can become subject to conflicts of interest because they devote part of their working time to other business endeavors, including consulting relationships with other entities, and have responsibilities to these other entities. Although such officers are aware of their duties and accountability to our company and to applicable laws and policies relating to corporate opportunity and conflicts of interest, such conflicts of interest may include deciding how much time to devote to our affairs, as well as what business opportunities should be presented to us.

Certain of our directors and officers may have actual or potential conflicts of interest because of their positions with MyMD.

Following this offering, Dr. Adam Kaplin, our President and Chief Scientific Officer, will continue to serve as the Chief Scientific Officer of MyMD. In addition, Dr. Chris Chapman, our Executive Chairman, will continue to serve as a director, President, and Chief Medical Officer of MyMD. Also, our CEO, Erez Aminov, has provided services to MyMD from time to time. Although these persons are not full-time employees of MyMD, it is possible that the amount of time that they expend on their work for MyMD may adversely impact the amount of time that they can spend on their work for our company. These persons also own MyMD common stock and options to purchase MyMD common stock. Their respective positions at MyMD and the ownership of any MyMD equity or equity awards creates, or may create the appearance of, conflicts of interest when these individuals are faced with decisions that could have different implications for MyMD than the decisions have for us. Furthermore, as MyMD holds the patent rights to the MIRA1a compound in foreign jurisdictions and in light of the license agreement we have with MyMD, if a dispute were to arise between MyMD and our company relating to our past or future relationship with MyMD or with respect to intellectual property matters, these potential conflicts of interest may make it more difficult for us to favorably resolve such disputes.

Risks Relating to Our Business and Our Industry

Our future success will largely depend on the success of MIRA1a and any future product candidates, which development will require significant capital resources and years of clinical development effort.

We currently have no drug products on the market, and all of our drug development projects are in a pre-clinical stage of development. Our business depends almost entirely on the successful pre-clinical and clinical development, FDA regulatory approval, and commercialization of our product candidates, principally MIRA1a. Investors need to be aware that substantial additional investments including pre-clinical and clinical development and FDA regulatory submission and approval efforts will be required before we are permitted to undertake clinical studies and market and commercialize our product candidates, if ever. It may be several years before we can commence clinical trials, if ever. Any clinical trial will be subject to extensive and rigorous review and regulation by numerous government authorities in the United States and other jurisdictions where we intend, if approved, to market our product candidates. Before obtaining regulatory approvals for any of our product candidates, we must demonstrate through pre-clinical testing and clinical trials that the product candidate is safe and effective for its specific application. This process can take many years and may include post- marketing studies and surveillance, which would require the expenditure of substantial resources. Of the large number of drugs in development for approval in the United States (and the rest of the world), only a small percentage will successfully complete the FDA regulatory approval financing to fund our planned research, development, and clinical programs, we cannot assure you that any of our product candidates will be successfully developed or commercialized.

We may be unable to formulate or scale up any or all of our product candidates. There is no guarantee that any of the product candidates will be or are able to be manufactured or produced in a manner to meet the FDA's criteria for product stability, content uniformity and all other criteria necessary for product approval in the United States and other markets. Any of our product candidates may fail to achieve their specified endpoints in clinical trials.

Furthermore, product candidates may not be approved even if they achieve their specified endpoints in clinical trials. The FDA may disagree with our trial design and our interpretation of data from clinical trials or may change the requirements for approval even after it has reviewed and commented on the design for our clinical trials. The FDA may also approve a drug for fewer or more limited indications than we request or may grant approval contingent on the performance of costly post-approval clinical trials (i.e., Phase IV trials). In addition, the FDA may not approve the labeling claims that we believe are necessary or desirable for the successful commercialization of our product candidates.

If we are unable to expand our pipeline and obtain regulatory approval for our product candidates within the timelines we anticipate, we will not be able to execute our business strategy effectively and our ability to substantially grow our revenues will be limited, which would have a material adverse impact on our long-term business, results of operations, financial condition, and prospects.

We are dependent on the success of our current and future product candidates, some of which may not receive regulatory approval or be successfully commercialized.

Our success will depend on our ability to successfully commercialize our product candidates. Our ability to successfully commercialize our product candidates will depend on, among other things, our ability to:

- successfully complete pre-clinical and other nonclinical studies and clinical trials;
- receive regulatory approvals from the FDA;
- produce, through a validated process, in manufacturing facilities inspected and approved by regulatory authorities, including the FDA, sufficiently large quantities of product candidates to permit successful commercialization;
- obtain reimbursement from payers such as government health care programs and insurance companies and achieve commercially attractive levels of pricing;
- secure acceptance of our product candidates from physicians, health care payers, patients, and the medical community;

- create positive publicity surrounding our product candidates;

- manage our spending as costs and expenses increase due to clinical trials and commercialization; and
- obtain and enforce sufficient intellectual property for our product candidates.

Our failure or delay with respect to any of the factors above could have a material adverse effect on our business, results of operations and financial condition.

Our business may be materially and adversely affected in the future by the evolving effects of the COVID-19 pandemic as a result of the current and potential future impacts on our commercialization efforts, supply chain, regulatory and clinical development activities, and other business operations, in addition to the impact of a global economic slowdown.

Our business could be materially and adversely affected in the future by the evolving effects of the COVID-19 pandemic. If we are unable to obtain adequate supplies of personal protective equipment due to shortages or encounter other challenges related to the evolving COVID-19 pandemic, we may have to place or may experience additional limitations on our in-person activities. In addition, our increased reliance on personnel working from home may negatively impact productivity or disrupt, delay or otherwise adversely impact our business. This could also increase our cybersecurity risk, create data accessibility concerns, and make us more susceptible to communication disruptions, any of which could adversely impact our business operations. Impacts related to the COVID-19 pandemic could materially and adversely affect our business, our ability to generate sales of and revenues from our approved products, and our ability to advance the development of our products and product candidates, as described elsewhere in this "Risk Factors" section. The magnitude of such impacts will depend, in large part, on the ultimate duration and severity of the evolving effects of the COVID-19 pandemic.

The effects of the COVID-19 pandemic continue to rapidly evolve. These effects have increased market volatility and could result in a significant long-term disruption of global financial markets, reducing our ability to access capital, which could in the future negatively affect our liquidity. In addition, market corrections resulting from the effects of the COVID-19 pandemic could materially affect our business and the value of our common stock. The extent to which the evolving effects of the COVID-19 pandemic impact our business, our ability to generate sales of and revenues from our approved products, and our clinical development and regulatory efforts will depend on future developments that are highly uncertain and cannot be predicted with confidence, such as the ultimate duration and severity of the pandemic, government actions, such as travel restrictions, quarantines and social distancing requirements in the U.S. and in other countries, business closures or business disruptions and the effectiveness of actions taken in the U.S. and in other countries to contain and treat the disease. Accordingly, we do not yet know the full extent of potential delays or impacts on our business, sales of our products, our clinical and regulatory activities, our research programs, healthcare systems or the global economy as a whole. However, these effects could materially and adversely affect our business, financial condition, results of operations and growth prospects. In addition, to the extent the evolving effects of the COVID-19 pandemic adversely affect our business, financial condition, results of operations and growth prospects, they may also have the effect of heightening many of the other risks and uncertainties described elsewhere in this "Risk Factors" section. It is also possible that future global pandemics could also occur and also materially and adversely affect our business, financial condition, results of operations and growth prospects.

Results of pre-clinical studies and earlier clinical trials are not necessarily predictive indicators of future results.

Any positive results from future pre-clinical testing of our product candidates and potential future clinical trials may not necessarily be predictive of the results from Phase I, Phase II or Phase III clinical trials. In addition, our interpretation of results derived from clinical data or our conclusions based on our pre-clinical data may prove inaccurate. Frequently, pharmaceutical and biotechnology companies have suffered significant setbacks in clinical trials after achieving positive results in pre-clinical testing and early phase clinical trials, and we cannot be certain that we will not face similar setbacks. These setbacks may be caused by the fact that pre-clinical and clinical data can be susceptible to varying interpretations and analyses. Furthermore, certain product candidates may perform satisfactorily in pre-clinical studies and clinical trials, but nonetheless fail to obtain FDA approval or appropriate approvals by the appropriate regulatory authorities in other countries. If we fail to produce positive results in our clinical trials for our product candidates, the development timeline and regulatory approval and commercialization prospects for them and as a result our business and financial prospects, would be materially adversely affected.

We have limited marketing experience, and we do not anticipate at this time establishing a sales force or distribution and reimbursement capabilities, and we may not be able to successfully commercialize any of our product candidates if they are approved in the future.

Our ability to generate revenues ultimately depends on our ability to sell our approved products and secure adequate third-party reimbursement. We currently have limited experience in marketing and selling our products. We currently do not have any products approved for sale in the United States or in any other country.

The commercial success of our product candidates will depend on a number of factors beyond our control, including the willingness of physicians to prescribe our products to patients, payers' willingness and ability to pay for the drugs, the level of pricing achieved, patients' response to our drugs and the ability of our marketing partners to generate sales. There can be no guarantee that we will be able to establish or maintain the personnel, systems, arrangements and capabilities necessary to successfully commercialize MIRA1a or any product candidate approved by the FDA in the future. If we fail to establish or maintain successful marketing, sales and reimbursement capabilities or fail to enter into successful marketing arrangements with third parties, our product revenues may suffer.

Should we later determine it is in our best interest to develop a sales force we may be unable to effectively train and equip our sales force, therefore our ability to successfully commercialize our products may be harmed.

We will be required to expend significant time and resources to train our sales force to be credible, persuasive and compliant with applicable laws in marketing MIRA1a or our other product candidates to physicians for their approved uses. In addition, we must continue to train our sales force to ensure that a consistent and appropriate message about MIRA1a or our other product candidates are being delivered to our potential customers. If we are unable to effectively train our sales force and equip them with effective materials, including medical and sales literature to help them inform and educate potential customers about the benefits of MIRA1a and our product candidates and its proper administration, our efforts to successfully commercialize MIRA1a and our product candidates could be jeopardized, which would negatively impact our ability to generate product revenues.

We will need to further increase the size and complexity of our organization in the future, and we may experience difficulties in managing our growth and executing our growth strategy.

Our management and personnel, systems, and facilities currently in place may not be adequate to support our business plan and future growth. As a result, we may need to further expand certain areas of our organization.

Our need to effectively manage our operations, growth and various projects requires that we:

- continue to improve our operational, financial, management and regulatory compliance controls and reporting systems and procedures;
- attract and retain enough talented employees;
- manage our clinical trials effectively;
- manage our external manufacturing operations with contract research organizations effectively and in a cost-effective manner;
- manage our development efforts effectively while carrying out our contractual obligations to contractors and other third parties; and

In addition, we may utilize the services of part-time outside consultants and contractors to perform several tasks for us, including tasks related to compliance programs, clinical trial management, regulatory affairs, formulation development and other drug development functions. Our growth strategy may entail expanding our use of consultants and contractors to implement these and other tasks going forward. If we are not able to effectively expand our organization by hiring new employees and expanding our use of consultants and contractors, we may be unable to successfully implement the tasks necessary to effectively execute on our planned research, development, manufacturing, and commercialization activities and, accordingly, may not achieve our research, development and commercialization goals.

Our product candidates, if approved, may be unable to achieve the expected market acceptance and, consequently, limit our ability to generate revenue from new products.

Even when product development is successful and regulatory approval has been obtained, our ability to generate sufficient revenue depends on the acceptance of our products by physicians and patients. We cannot assure you that our product candidates will achieve the expected level of market acceptance and revenue if and when they obtain the requisite regulatory approvals. The market acceptance of any product depends on a number of factors, including the indication statement and warnings required by regulatory authorities in the product label. Market acceptance can also be influenced by continued demonstration of efficacy and safety in commercial use, physicians' willingness to prescribe the product, reimbursement from third-party payers such as government health care programs and private third-party payers, the price of the product, the nature of any post-approval risk, management activities mandated by regulatory authorities, competition, and marketing and distribution support. Further, an ineffective or inefficient distribution model at launch may lead to the inability to fulfill demand, and consequently a loss of revenue. Any factors preventing or limiting the market acceptance of our products could have a material adverse effect on our business, results of operations and financial condition.

If the price for any future approved products decreases or if government and other third-party payers do not provide coverage and adequate reimbursement levels, our revenue and prospects for profitability will suffer.

Patients who are prescribed medicine for the treatment of their conditions generally rely on third-party payers to reimburse all or part of the costs associated with their prescription drugs. Reimbursement systems in international markets vary significantly by country and by region, and reimbursement approvals generally must be obtained on a country-by-country basis. Coverage and adequate reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payers is critical to new product acceptance. Coverage decisions may depend upon clinical and economic standards that disfavor new drug products when more established or lower-cost therapeutic alternatives are already available or subsequently become available. Even if we obtain coverage for products we may market, the resulting reimbursement payment rates may require co-payments that patients find unacceptably high. Patients may not use our products if coverage is not provided, or reimbursement is inadequate to cover a significant portion of its cost.

In addition, the market for our products will depend significantly on access to third-party payers' drug formularies or lists of medications for which third-party payers provide coverage and reimbursement. The industry competition to be included in such formularies often leads to downward pricing pressures on pharmaceutical companies. Also, third-party payers may refuse to include a particular branded drug in their formularies or otherwise restrict patient access to a branded drug when a less costly generic equivalent or other alternative is available, even if not approved for the indications for which our products are approved.

Third-party payers or governmental or commercial entities are developing increasingly sophisticated methods of controlling healthcare costs. The current environment is putting pressure on companies to price products below what they may feel is appropriate. Selling our products at less than an optimized price could impact our revenues and overall success as a company. It will be difficult to determine the optimized price for our products. In addition, in the U.S., no uniform policy of coverage and reimbursement for drug products exists among third-party payers. Therefore, coverage and reimbursement for our products may differ significantly from payer to payer. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payer separately, with no assurance that coverage will be obtained. If we are unable to obtain coverage of, and adequate payment levels for, products we may market to third-party payers, physicians may limit how much or under what circumstances they will prescribe or administer them, and patients may decline to purchase them. This in turn could affect our ability to successfully commercialize products we may market, and thereby adversely impact our profitability, results of operations, financial condition, and future success.

In addition, where we have chosen to collaborate with a third party on product candidate development and commercialization, our partner may elect to reduce the price of our products in order to increase the likelihood of obtaining reimbursement approvals. In many countries, products cannot be commercially launched until reimbursement is approved and the negotiation process in some countries can exceed 12 months. In addition, pricing and reimbursement decisions in certain countries can be affected by decisions taken in other countries, which can lead to mandatory price reductions and/or additional reimbursement restrictions across a number of other countries, which may thereby adversely affect our sales and profitability. In the event that countries impose prices that are not sufficient to allow us or our partners to generate a profit, our partners may refuse to launch the product in such countries or withdraw the product from the market, which would adversely affect sales and profitability. Events, such as price decreases, government mandated rebates or unfavorable reimbursement decisions, could affect the pricing and reimbursement of MIRA1a and our other product candidates and could have a material adverse effect on our business, reputation, results of operations and financial condition.

We expect to face intense competition, often from companies with greater resources and experience than we have.

Demand for synthetic cannabinoids such as MIRA1a, will likely be dependent on a number of social, political, legislative, and economic factors that are beyond our control. While we believe that there will be a demand for such drugs, and that the demand will grow, there is no assurance that such demand will happen, that we will benefit from any demand or that our business, in fact, will ever generate revenues from our drug development programs or become profitable.

The emerging markets for synthetic cannabinoids and medical research and development is and will likely remain competitive. The development and commercialization of drugs and medicines is highly competitive. We compete with a variety of multinational pharmaceutical companies and specialized biotechnology companies, as well as products and processes being developed by universities and other research institutions. Many of our competitors have developed, are developing, or will develop drugs and processes which may be competitive with our drug candidates. Competitive therapeutic treatments include those that have already been approved by medicines regulators and accepted by the medical community and any new treatments that may enter the market. For some of our drug development programs / areas of therapeutic interest, other treatment options are currently available, under development, and may become commercially available in the future. If any of our product candidates are approved for the diseases and conditions we are currently pursuing, they may compete with a range of medicines or therapeutic treatments that are either in development, will be developed in the future or currently marketed.

Established companies may have a competitive advantage over us due to their size and experiences, financial resources, and institutional networks. Many of our

competitors may have significantly greater financial, technical, and human resources than we do. Due to these factors, our competitors may have an advantage in marketing their approved drugs and may obtain regulatory approval of their drug candidates before we are able to, which may limit our ability to develop or commercialize our drug candidates. Our competitors may also develop drugs / medicines that are safer, more effective, more widely used and less expensive than ours. These advantages could materially impact our ability to develop and, if approved, commercialize our product candidates successfully. Furthermore, some of these competitors may make acquisitions or establish collaborative relationships among themselves or with third parties to increase their ability to rapidly gain market share.

Our product candidates may compete with other synthetic cannabinoids, as well as with cannabinoid or cannabis-based drugs, in addition to competing with state-licensed medical and recreational marijuana, in markets where the recreational and/or medical use of marijuana is legal. There is continuing support in the U.S. for further state legalization of marijuana. In markets where recreational and/or medical marijuana is not legal, our product candidates, once approved by regulators, may compete with marijuana or marijuana-based products purchased in the illegal drug market. This may or may not affect the commercial price that we may be able to achieve for our synthetic regulatory-approved medicines, should they be approved by the FDA.

Moreover, as generic versions of drug products enter the market, the price for such medicines may be expected to decline rapidly and substantially. Even if we are the first to obtain FDA approval of one of our product candidates, the future potential approval of generics could adversely affect the price we are able to charge, and the profitability of our product(s) will likely decline.

Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in more resources being concentrated among a smaller number of our competitors. Smaller and other early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

These companies may compete with us in recruiting and retaining qualified scientific, management and commercial personnel, utilizing contract manufacturing facilities or contract research organizations (CROs), or establishing clinical trial sites and subject registration for clinical trials, as well as in acquiring technologies complementary to our research projects.

Product shipment delays could have a material adverse effect on our business, results of operations and financial condition.

The shipment, import and export of MIRA1a and our other product candidates require import and export licenses. In the U.S., FDA, U.S. Customs and Border Protection and the DEA, and in other countries similar regulatory authorities, regulate the import and export of pharmaceutical products that contain controlled substances. Specifically, the import and export process require the issuance of import and export licenses by the relevant controlled substance authority in both the importing and exporting country. We may not be granted, or if granted, maintain, such licenses from the authorities in certain countries. Even if we obtain the relevant licenses, shipments of MIRA1a and our product candidates may be held up in transit, which could cause significant delays and may lead to product batches being stored outside required temperature ranges. Inappropriate storage may damage the product shipment resulting in a partial or total loss of revenue from one or more shipments of MIRA1a or our other product candidates. A partial or total loss of revenue from one or more shipments of MIRA1a or our other product candidates could have a material adverse effect on our business, results of operations and financial condition. Even though the DEA has confirmed in writing that it conducted a scientific review of the chemical structure of MIRA1a in accordance with the definitions within the CSA and its implementing regulations and determined that MIRA1a is not a controlled substance or listed chemical, there is no assurance that the DEA may not change its position.

Problems in our manufacturing process, failure to comply with manufacturing regulations or unexpected increases in our manufacturing costs could harm our business, results of operations and financial condition.

The manufacturing of our product candidates necessitates compliance with cGMP and other regulatory requirements in jurisdictions internationally. We must ensure chemical consistency among our batches of products, including clinical batches and, if approved, marketing batches. Demonstrating such consistency may require typical manufacturing controls as well as clinical data. We must also ensure that our batches conform to complex release specifications. If we are unable to manufacture our product candidates in accordance with regulatory specifications, including cGMP, or if there are disruptions in our manufacturing process due to damage, loss or otherwise, or failure to pass regulatory inspections of our manufacturing facilities, we may not be able to meet current demand or supply sufficient product for use in clinical trials, and this may also harm our ability to commercialize our product candidates on a timely or cost-competitive basis, if at all.

We may fail to expand our manufacturing capability in time to meet market demand for our products and product candidates, and the FDA may refuse to accept our facilities or those of our contract manufacturers as being suitable for the production of our products and product candidates. Any problems in our manufacturing process could have a material adverse effect on our business, results of operations and financial condition.

In addition, before we can begin commercial manufacture of any product candidates for sale in the U.S., we must obtain FDA regulatory approval for the product, which requires a successful FDA inspection of our manufacturing facilities and those of our contract manufacturers, processes, and quality systems in addition to other product-related approvals. Although we may successfully navigate this pre-approval inspection process as it relates in the U.S., pharmaceutical manufacturing facilities are continuously subject to post-approval inspection by the FDA and foreign regulatory authorities. Due to the complexity of the processes used to manufacture our product candidates, we may be unable to initially or continue to pass federal, state or international regulatory inspections in a cost-effective manner. If we are unable to comply with manufacturing regulations, we may be subject to fines, unanticipated compliance expenses, recall or seizure of any approved products, total or partial suspension of production and/or enforcement actions, including injunctions, and criminal or civil prosecution. These possible sanctions would adversely affect our business, results of operations and financial condition.

Business interruptions could delay us in the process of developing our product candidates and could disrupt our product sales.

Our research and development activities are conducted through outside contractors and manufacturers. Loss of our contracted manufacturing facilities, stored inventory or laboratory facilities through fire, theft or other causes, or loss of our raw material, could have an adverse effect on our ability to continue product development activities and to conduct our business. Failure to supply our partners with commercial product may lead to adverse consequences, including the right of partners to take over responsibility for product supply. We currently do not have insurance coverage to compensate us for such business interruptions. Our contract manufacturers and suppliers provide that in their separate operations; however, such coverage may prove insufficient to fully compensate us for the damage to our business resulting from any significant property or casualty loss to those facilities.

We have significant and increasing liquidity needs and may require additional funding.

Our operations have consumed substantial amounts of cash since inception. For the three months ended March 31, 2023, we reported a net operating cash outflow of $1.1 million and a net cash inflow from investing activities of $0.7 million. For the year ended December 31, 2022, we reported a net operating cash outflow of $5.6 million and a net cash inflow from investing activities of $3.1 million. For the year ended December 31, 2021, we reported a net operating cash outflow of $1.4 million and a net cash inflow from investing activities of $4.2 million.

Research and development, and general and administrative expenses, and cash used for operations will continue to be significant and may increase substantially in the

future in connection with new research and development initiatives and continued product commercialization efforts. We may need to raise additional capital to fund our operations, continue to conduct clinical trials to support potential regulatory approval of marketing applications and to fund commercialization of our products.

The amount and timing of our future funding requirements will depend on many factors, including, but not limited to:

- the timing of FDA approval, if any;
- the DEA continuing to classify MIRA1a as a substance not subject to CSA;
- the timing and amount of revenue from sales of our products, or revenue from grants or other sources;
- the rate of progress and cost of our clinical trials and other product development programs;
- costs of establishing or outsourcing sales, marketing, and distribution capabilities;
- costs and timing of completion of expanded in-house manufacturing facilities as well as any outsourced commercial manufacturing supply arrangements for our product candidates;
- costs of filing, prosecuting, defending, and enforcing any patent claims and other intellectual property rights associated with our product candidates;
- costs of operating as a U.S. public company;
- the effect of competing technological and market developments;
- personnel, facilities, and equipment requirements; and
- the terms and timing of any additional collaborative, licensing, co-promotion, or other arrangements that we may establish.

While we expect to fund our future capital requirements from a number of sources including existing cash balances, future cash flows from operations and the proceeds from further public offerings, we cannot assure you that any of these funding sources will be available to us on favorable terms, or at all. Further, even if we can raise funds from all of the above sources, the amounts raised may not be sufficient to meet our future capital requirements.

Operating results may vary significantly in future periods.

Our expenses and operating results have fluctuated in the past and our revenues, expenses, and operating results are likely to fluctuate significantly in the future. Our financial results are unpredictable and may fluctuate, for among other reasons, due to:

- commercial sales of our products;
- our achievement of product development objectives and milestones;
- clinical trial enrollment and expenses;
- research and development expenses; and
- the timing and nature of contract manufacturing and contract research payments.

A high portion of our costs are predetermined on an annual basis, due in part to our significant research and development costs. Thus, small declines in revenue could disproportionately affect financial results in a quarter. Because of these factors, our financial results in one or more future quarters may fail to meet the expectations of securities analysts or investors, which could cause our share price to decline.

If product liability lawsuits are successfully brought against us, we will incur substantial liabilities and may be required to limit the commercialization of MIRA1a and our product candidates.

Although we have never had any product liability claims or lawsuits brought against us, we face potential product liability exposure related to the testing of our product candidates in human clinical trials. We may face exposure to claims by an even greater number of persons when we begin to market and distribute our products commercially in the U.S., Europe and elsewhere. Now, and in the future, an individual may bring a liability claim against us alleging that MIRA1a or one of our product candidates caused an injury. While we continue to take what we believe are appropriate precautions, we may be unable to avoid significant liability if any product liability lawsuit is brought against us. Large judgments have been awarded in class action or individual lawsuits based on drugs that had unanticipated side effects. If we cannot successfully defend ourselves against product liability claims, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for MIRA1a and our product candidates if such product candidates are approved;
- injury to our reputation;
- withdrawal of clinical trial participants;
- costs of related litigation;
- substantial monetary awards to patients and others;
- increased cost of liability insurance;
- loss of revenue; and
- the inability to successfully commercialize our products.

Counterfeit versions of our products could harm our business.

Counterfeiting activities and the presence of counterfeit products in a number of markets and over the Internet continue to be a challenge for maintaining a safe drug supply for the pharmaceutical industry. Counterfeit products are frequently unsafe or ineffective and can be life-threatening. To distributors and users, counterfeit products may

be visually indistinguishable from the authentic version. Reports of adverse reactions to counterfeit drugs along with increased levels of counterfeiting could be mistakenly attributed to the authentic product, affect patient confidence in the authentic product and harm the business of companies such as ours. If our products were to be the subject of counterfeits, we could incur reputational and financial harm.

We depend upon our key personnel and our ability to attract and retain employees.

Our future growth and success depend on our ability to recruit, retain, manage, and motivate our employees. The inability to hire or retain experienced management personnel could adversely affect our ability to execute our business plan and harm our operating results. Due to the specialized scientific and managerial nature of our business, we rely heavily on our ability to attract and retain qualified scientific, technical, and managerial personnel. The competition for qualified personnel in the pharmaceutical field is intense. Due to this intense competition, we may be unable to continue to attract and retain the qualified personnel necessary for the development of our business or to recruit suitable replacement personnel.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with FDA or foreign regulations, provide accurate information to FDA or other regulatory authorities, comply with applicable manufacturing standards, comply with other foreign, federal, and state laws and regulations, report information or data accurately or disclose unauthorized activities to us. Employee misconduct could also involve the improper use of information, including information obtained during clinical trials, or illegal appropriation of drug products, which could result in government investigations and serious harm to our reputation. The precautions we take to detect and prevent these prohibited activities may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

We are subject to the U.S. Foreign Corrupt Practices Act and other anti-corruption laws, as well as export control laws, customs laws, sanctions laws and other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, other remedial measures, and legal expenses, which could adversely affect our business, results of operations and financial condition.

Our operations are subject to anti-corruption laws, including the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"), and other anti-corruption laws that apply in countries where we do business. The FCPA and these other laws generally prohibit us and our employees and intermediaries from bribing, being bribed or making other prohibited payments to government officials or other persons to obtain or retain business or gain some other business advantage. We and our commercial partners operate in a number of jurisdictions that pose a high risk of potential FCPA violations, and we participate in collaborations and relationships with third parties whose actions could potentially subject us to liability under the FCPA or local anti-corruption laws. In addition, we cannot predict the nature, scope, or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the government of the U.S. and other countries in which we operate or plan to operate, including applicable export control regulations, economic sanctions on countries and persons, customs requirements, and currency exchange regulations, (collectively referred to as the "Trade Control laws").

However, there is no assurance that we will be completely effective in ensuring our compliance with all applicable anti-corruption laws, including the FCPA or other legal requirements, including Trade Control laws. If we are not in compliance with the FCPA and other anti-corruption laws or Trade Control laws, we may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations and liquidity, as well as our reputation. Likewise, any investigation of any potential violations of the FCPA, other anti-corruption laws or Trade Control laws by the U.S. or other authorities could also have an adverse impact on our reputation, our business, results of operations and financial condition.

Our proprietary information, or that of our customers, suppliers, and business partners, may be lost or we may suffer security breaches.

In the ordinary course of our business, we will collect and store sensitive data, including valuable and commercially sensitive intellectual property, clinical trial data, our proprietary business information and that of our customers, suppliers and business partners, and personally identifiable information of our customers, clinical trial subjects and employees, and patients, in our data centers, on our networks, and with our third-party cloud service providers. The secure processing, maintenance and transmission of this information is critical to our operations. Despite our security measures, our information technology and infrastructure, and that of our third parties, may be vulnerable to attacks by hackers or breached due to employee error, malfeasance, or other disruptions. Any breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost, or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, regulatory penalties, disrupt our operations, damage our reputation, and cause a loss of confidence in our products and our ability to conduct clinical trials, which could adversely affect our business and reputation and lead to delays in gaining regulatory approvals for MIRA1a or other product candidates.

Failure of our information technology systems, including cybersecurity attacks or other data security incidents, could significantly disrupt the operation of our business.

Our business is increasingly dependent on critical, complex, and interdependent information technology ("IT") systems, including internet-based systems, some of which are managed or hosted by third parties, to support business processes as well as internal and external communications. The size and complexity of our IT systems make us potentially vulnerable to IT system breakdowns, malicious intrusion, and computer viruses, which may result in the impairment of our ability to operate our business effectively.

We are continuously evaluating and, where appropriate, enhancing our IT systems to address our planned growth, including to support our planned manufacturing operations. There are inherent costs and risks associated with implementing the enhancements to our IT systems, including potential delays in access to, or errors in, critical business and financial information, substantial capital expenditures, additional administrative time and operating expenses, retention of sufficiently skilled personnel to implement and operate the enhanced systems, demands on management time, and costs of delays or difficulties in transitioning to the enhanced systems, any of which could harm our business and results of operations. In addition, the implementation of enhancements to our IT systems may not result in productivity improvements at a level that outweighs the costs of implementation, or at all. In addition, our systems and the systems of our third-party providers and collaborators are potentially vulnerable to data security breaches which may expose sensitive data to unauthorized persons or to the public. Such data security breaches could lead to the loss of confidential information, trade secrets or other intellectual property, could lead to the public exposure of personal information (including personally identifiable information or individually identifiable health information) of our employees, clinical trial patients, customers, business partners, and others, could lead to potential identity theft, or could lead to reputational harm. Data security breaches could also result in loss of clinical trial data or damage to the integrity of that data. In addition, the increased use of social media by our employees and contractors could result in inadvertent disclosure of sensitive data or personal information, including but not limited to, confidential information, trade secrets and other intellectual property.

Any such disruption or security breach, as well as any action by us or our employees or contractors that might be inconsistent with the rapidly evolving data privacy and security laws and regulations applicable within the United States and elsewhere where we conduct business, could result in enforcement actions by U.S. states, the U.S. federal government or foreign governments, liability or sanctions under data privacy laws, including healthcare laws such as HIPAA, that protect certain types of sensitive

information, regulatory penalties, other legal proceedings such as but not limited to private litigation, the incurrence of significant remediation costs, disruptions to our development programs, business operations and collaborations, diversion of management efforts and damage to our reputation, which could harm our business and operations. Because of the rapidly moving nature of technology and the increasing sophistication of cybersecurity threats, our measures to prevent, respond to and minimize such risks may be unsuccessful.

Security breaches, loss of data and other disruptions could compromise sensitive information related to our business, prevent us from accessing critical information or expose us to liability, which could adversely affect our business and our reputation.

In the ordinary course of our business, we, our vendors, and our third-party cloud service providers may collect and store sensitive data, including legally protected patient health information, credit card information, personally identifiable information about our employees and patients, intellectual property, and proprietary business information. We manage and maintain our applications and data utilizing cloud-based and on-site systems. These applications and data encompass a wide variety of business-critical information including research and development information, commercial information and business and financial information.

The secure processing, storage, maintenance, and transmission of this critical information is vital to our operations and business strategy, and we devote significant resources to protecting such information. Although we take measures to protect sensitive information from unauthorized access or disclosure, our information technology and infrastructure may be vulnerable to attacks by hackers, or viruses, breaches, or interruptions due to employee error, malfeasance or other disruptions, or lapses in compliance with privacy and security mandates. Any such virus, breach or interruption could compromise our networks and the information stored there could be accessed by unauthorized parties, publicly disclosed, lost or stolen. We have measures in place that are designed to prevent, and if necessary to detect and respond to such security incidents, breaches of privacy, and security mandates. However, in the future, any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, such as HIPAA in the United States and the General Data Protection Regulation in the European Union, or GDPR, government enforcement actions and regulatory penalties. Unauthorized access, loss or dissemination could also disrupt our operations, including our ability to process samples, provide test results, share and monitor safety data, bill payers or patients, provide customer support services, conduct research and development activities, process and prepare company financial information, manage various general and administrative aspects of our business and may damage our reputation, any of which could adversely affect our business, financial condition and results of operations.

Legislative or regulatory reform of the health care system in the U.S. may affect our ability to profitably sell our products, if approved.

Our ability to commercialize our future products successfully, alone or with collaborators, will depend in part on the extent to which coverage and reimbursement for the products will be available from government and health administration authorities, private health insurers and other third-party payers. The continuing efforts of the U.S. government, insurance companies, managed care organizations and other payers for health care services to contain or reduce health care costs may adversely affect our ability to set prices for our products which we believe are fair, and our ability to generate revenues and achieve and maintain profitability.

Specifically, in the U.S., there have been a number of legislative and regulatory proposals to change the health care system in ways that could affect our ability to sell our products profitably. For example, certain states in the U.S. are proposing legislation mandating publicly funded health program coverage of medical cannabis. In addition, the 2010 Affordable Care Act, or the ACA, substantially changed the way healthcare is financed by both governmental and private insurers. Both Congress and the U.S. President have already taken some actions that are intended to significantly limit the ACA, and we expect efforts to further modify or repeal the ACA to continue. The success and potential effects of these efforts to repeal or modify the ACA are not clear.

We expect additional federal and state legislative proposals for health care reform, which could limit the prices that can be charged for the products we develop and may limit our commercial opportunity.

The continuing efforts of government and other third-party payers to contain or reduce the costs of health care through various means may limit our commercial opportunity. It will be time-consuming and expensive for us to go through the process of seeking coverage and reimbursement from Medicare, Medicaid, and other governmental health programs and from private payers. Our products may not be considered cost-effective, and government and third-party private health insurance coverage and reimbursement may not be available to patients for any of our future products or sufficient to allow us to sell our products on a competitive and profitable basis. Our results of operations could be adversely affected by ACA, changes to the ACA, and by other health care reforms that may be enacted or adopted in the future. In addition, increasing emphasis on managed care in the U.S. will continue to put downward pressure on the pricing of pharmaceutical products. Cost-control initiatives could decrease the price that we or any potential collaborators could receive for any of our future products and could adversely affect our ability to generate revenue in the U.S. market and maintain profitability.

We may acquire other companies which could divert our management's attention, result in additional dilution to our shareholders and otherwise disrupt our operations and harm our operating results.

We may in the future seek to acquire businesses, products, or technologies that we believe could complement or expand our product offerings, enhance our technical capabilities or otherwise offer growth opportunities. The pursuit of potential acquisitions may divert the attention of management and cause us to incur various expenses in identifying, investigating, and pursuing suitable acquisitions, whether or not they are consummated. If we acquire additional businesses, we may not be able to integrate the acquired personnel, operations and technologies successfully, effectively manage the combined business following the acquisition or realize anticipated cost savings or synergies. We also may not achieve the anticipated benefits from the acquired business due to a number of factors, including:

- incurrence of acquisition-related costs;
- diversion of management's attention from other business concerns;
- unanticipated costs or liabilities associated with the acquisition;
- harm to our existing business relationships with collaboration partners as a result of the acquisition;
- harm to our brand and reputation;
- the potential loss of key employees;
- use of resources that are needed in other parts of our business; and
- use of substantial portions of our available cash to consummate the acquisition.

In the future, if our acquisitions do not yield expected returns, we may be required to take charges to our operating results arising from the impairment assessment process. Acquisitions may also result in dilutive issuances of equity securities or the incurrence of debt, which could adversely affect our operating results. In addition, if an

acquired business fails to meet our expectations, our business, results of operations and financial condition may be adversely affected.

Risks Related to Development and Regulatory Approval of Our Product Candidates

Clinical trials for our product candidates are expensive, time-consuming, uncertain, and susceptible to change, delay or termination. The results of clinical trials are open to differing interpretations.

Clinical trials are expensive, time consuming and difficult to design and implement. Regulatory agencies may analyze or interpret the results differently than us. Even if the results of our clinical trials are favorable, the clinical trials for a number of our product candidates are expected to continue for several years and may take significantly longer to complete. In addition, we, the FDA, or other regulatory authorities, including state and local authorities, or an Institutional Review Board, or IRB, with respect to a trial at its institution, may suspend, delay or terminate our clinical trials at any time, require us to conduct additional clinical trials, require a particular clinical trial to continue for a longer duration than originally planned, require a change to our development plans such that we conduct clinical trials for a product candidate in a different order, e.g., in a step-wise fashion rather than running two trials of the same product candidate in parallel, or the DEA could suspend or terminate the registrations and quota allotments we require in order to procure and handle controlled substances, for various reasons, including:

- lack of effectiveness of any product candidate during clinical trials;
- discovery of serious or unexpected toxicities or side effects experienced by trial participants or other safety issues, such as drug interactions, including those which cause confounding changes to the levels of other concomitant medications;
- slower than expected rates of subject recruitment and enrollment rates in clinical trials;
- difficulty in retaining subjects who have initiated a clinical trial but may withdraw at any time due to adverse side effects from the therapy, insufficient efficacy, fatigue with the clinical trial process or for any other reason;
- the evolving effects of the COVID-19 pandemic;
- delays or inability in manufacturing or obtaining sufficient quantities of materials for use in clinical trials due to regulatory and manufacturing constraints;
- inadequacy of or changes in our manufacturing process or product formulation;
- delays in obtaining regulatory authorization to commence a trial, including “clinical holds” or delays requiring suspension or termination of a trial by a regulatory agency, such as the FDA, before or after a trial is commenced;
- changes in applicable regulatory policies and regulation, including changes to requirements imposed on the extent, nature, or timing of studies;
- delays or failure in reaching agreement on acceptable terms in clinical trial contracts or protocols with prospective clinical trial sites;
- uncertainty regarding proper dosing;
- delay or failure to supply product for use in clinical trials which conforms to regulatory specification;
- unfavorable results from ongoing pre-clinical studies and clinical trials;
- failure of our contract research organizations, or CROs, or other third-party contractors to comply with all contractual requirements or to perform their services in a timely or acceptable manner;

- failure by us, our employees, our CROs or their employees to comply with all applicable FDA or other regulatory requirements relating to the conduct of clinical trials or the handling, storage, security, and recordkeeping;
- scheduling conflicts with participating clinicians and clinical institutions;
- failure to design appropriate clinical trial protocols;
- regulatory concerns with cannabinoid products generally and the potential for abuse;
- insufficient data to support regulatory approval;
- inability or unwillingness of medical investigators to follow our clinical protocols; or
- difficulty in maintaining contact with patients during or after treatment, which may result in incomplete data.

Any of the foregoing could have a material adverse effect on our business, results of operations and financial condition.

Clinical trials of synthetic cannabinoid drug candidates are novel with very limited or non-existing history; we face a significant risk that the trials will not result in commercially viable drugs and treatments.

At present, there is only a very limited documented clinical trial history from which we can derive any scientific conclusions for our product candidates or prove that our present assumptions for the current and planned research are scientifically compelling. The API content of the Investigational New Drug applications (INDs) can vary from one IMD to another – hence it is not necessarily possible to extrapolate results from studies with one product and predict efficacy of safety with another product containing a similar API and different source. Whilst the principal synthetic cannabinoid component may be similar, the APIs may differ in terms of minor cannabinoid content, impurity profiles or degradant profiles. While we are encouraged by the results of clinical trials by others (where they exist), there can be no assurance that any pre-clinical study or clinical trial will result in in commercially viable drugs or treatments.

Clinical trials are expensive, time consuming and difficult to design and implement. We, as well as the regulatory authorities may suspend, delay or terminate our clinical trials at any time, may require us, for various reasons, to conduct additional clinical trials, or may require a particular clinical trial to continue for a longer duration than originally planned, including, among others:

- lack of effectiveness of any API, formulation, or delivery system during clinical trials;
- discovery of serious or unexpected toxicities or side effects experienced by trial participants or other safety issues;

- slower than expected rates of subject recruitment and enrollment rates in clinical trials;
- delays or inability in manufacturing or obtaining sufficient quantities of GMP-grade materials for use in clinical trials due to regulatory and manufacturing constraints;
- delays in obtaining regulatory authorization to commence a trial, including Institutional Review Board ("IRB") approvals or DEA approvals, licenses required for obtaining and using synthetic cannabinoids or cannabinoid-like substances for research, either before or after a trial is commenced;
- unfavorable results from ongoing pre-clinical studies and clinical trials;
- patients or investigators failing to comply with clinical trial protocols;
- patients failing to return for post-treatment follow-up at the expected rate;
- sites participating in an ongoing clinical trial withdraw, requiring us to engage new sites;

- third-party clinical investigators decline to participate in our clinical trials, do not perform the clinical trials on the anticipated schedule, or act in ways inconsistent with the established investigator agreement, clinical trial protocol, good clinical practices, and other IRB requirements;
- third-party entities do not perform data collection and analysis in a timely or accurate manner or at all; or
- regulatory inspections of our clinical trials require us to undertake corrective action or suspend or terminate our clinical trials.

Any of the foregoing could have a material adverse effect on our business, results of operations and financial condition.

Any failure by us to comply with existing regulations could harm our reputation and operating results.

We are subject to extensive regulation by U.S. federal and state governments in each of the markets where we have product candidates progressing through the approval process.

We must also adhere to all regulatory requirements including FDA's Good Laboratory Practice, Good Clinical Practice, and current Good Manufacturing Practices requirements ("cGMP") pharmacovigilance requirements, advertising, and promotion restrictions, reporting and recordkeeping requirements. If we or our suppliers fail to comply with applicable regulations, including FDA pre-or post-approval cGMP requirements, then FDA could sanction us. Even if a drug is FDA-approved, regulatory authorities may impose significant restrictions on a product's indicated uses or marketing or impose ongoing requirements for potentially costly post-marketing trials. MIRA1a, and any of our product candidates that may be approved in the U.S. in the future, will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, distribution, import, export, advertising, promotion, sampling, recordkeeping and submission of safety and other post-market information, including both federal and state requirements in the U.S. In addition, manufacturers and manufacturers' facilities are required to comply with extensive FDA requirements, including ensuring that quality control and manufacturing procedures conform to GMP. As such, we, and our contract manufacturers (in the event contract manufacturers are appointed in the future) are subject to continual review and periodic inspections to assess compliance with GMP. Accordingly, we and others with whom we work must continue to spend time, money, and effort in all areas of regulatory compliance, including manufacturing, production, quality control and quality assurance. We will also be required to report certain adverse reactions and production problems, if any, to the FDA, and to comply with requirements concerning advertising and promotion for our products. Promotional communications with respect to prescription drugs are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved label.

If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or disagrees with the promotion, marketing or labeling of the product, it may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If we fail to comply with applicable regulatory requirements, a regulatory agency or enforcement authority may:

- issue untitled or warning letters;
- seek to enjoin our activities;
- impose civil or criminal penalties;
- suspend regulatory approval;
- suspend any of our ongoing clinical trials;
- refuse to approve pending applications or supplements to approved applications submitted by us;
- impose restrictions on our operations, including by requiring us to enter into a Corporate Integrity Agreement or closing our contract manufacturers' facilities, if any; or
- seize or detain products or require a product recall.

In addition, any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenue from our product candidates. If regulatory sanctions are applied or if regulatory approval is withdrawn, the value of our business and our operating results may be adversely affected.

Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses, divert our management's attention from the operation of our business and damage our reputation. We expend significant resources on compliance efforts and such expenses are unpredictable and might adversely affect our results. Changing laws, regulations and standards might also create uncertainty, higher expenses and increase insurance costs. As a result, we intend to invest all reasonably necessary resources to comply with evolving standards, and this investment might result in increased management and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities.

We are subject to federal and state healthcare laws and regulations and implementation of or changes to such healthcare laws and regulations could adversely affect our business and results of operations.

In the United States, there have been a number of legislative and regulatory proposals to change the healthcare system in ways that could impact our ability to sell our product candidates. If we are found to be in violation of any of these laws or any other federal or state regulations, we may be subject to administrative, civil and/or criminal penalties, damages, fines, individual imprisonment, exclusion from federal health care programs and the restructuring of our operations. Any of these could have a material adverse effect on our business and financial results. Since many of these laws have not been fully interpreted by the courts, there is an increased risk that we may be found in violation of one or more of their provisions. Any action against us for violation of these laws, even if we ultimately are successful in our defense, will cause us to incur significant legal expenses and divert our management's attention away from the operation of our business.

We expect that the ACA, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we may receive for any approved product. There have been judicial challenges to certain aspects of the ACA and numerous legislative attempts to repeal and/or replace the ACA in whole or in part, and we expect there will be additional challenges and amendments to the ACA in the future. At this time, the full effect that the ACA will have on our business in the future remains unclear. An expansion in the government's role in the U.S. healthcare industry may cause general downward pressure on the prices of prescription drug products, lower reimbursements, or any other product for which we obtain regulatory approval, reduce product utilization, and adversely affect our business and results of operations. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payers. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize products for which we may receive regulatory approval.

The regulatory approval processes with the FDA are lengthy and inherently unpredictable.

We are not permitted to market our drug candidates as medicines in the United States or other countries until we receive approval of a New Drug Application ("NDA") from the FDA or in any foreign countries until we receive the approval from the regulatory authorities of such countries. Prior to submitting an NDA to the FDA for approval of our drug candidates we will need to have completed our pre-clinical studies and clinical trials and demonstrate that our products meet all applicable standards of identity, strength, quality, and purity throughout their expiration date. Successfully completing any clinical program and obtaining approval of an NDA is a complex, lengthy, expensive, and uncertain process, and the FDA (or other country medicines regulatory body) may delay, limit, or deny approval of product candidates for many reasons, including, among others, because:

- an inability to demonstrate that our product candidates are safe and effective in treating patients to the satisfaction of the FDA;
- results of clinical trials that may not meet the level of statistical or clinical significance required by the FDA;
- disagreements with the FDA with respect to the number, design, size, conduct or implementation of clinical trials;
- requirements by the FDA to conduct additional clinical trials;

- disapproval by the FDA of certain formulations, labeling or specifications of product candidates;
- findings by the FDA that the data from pre-clinical studies and clinical trials are insufficient;
- findings by the FDA that our API or finished products do not meet all applicable standards of identity, strength, quality, and purity;
- the FDA may disagree with the interpretation of data from pre-clinical studies and clinical trials; and
- the FDA may change their approval policies or adopt new regulations.

Any of these factors, many of which are beyond our control, could increase development time and / or costs or jeopardize our ability to obtain regulatory approval for our drug candidates.

There is a high rate of failure for drug candidates proceeding through clinical trials.

Generally, there is a high rate of failure for drug candidates proceeding through clinical trials. We may suffer significant setbacks in our clinical trials similar to the experience of a number of other companies in the pharmaceutical and biotechnology industries, even after receiving promising results in earlier trials. Further, even if we view the results of a clinical trial to be positive, FDA may disagree with our interpretation of the data. In the event that we obtain negative results from clinical trials for product candidates or other problems related to potential chemistry, manufacturing and control issues or other hurdles occur and our product candidates are not approved, we may not be able to generate sufficient revenue or obtain financing to continue our operations, our ability to execute on our current business plan may be materially impaired, our reputation in the industry and in the investment community might be significantly damaged and the price of our common stock could decrease significantly. In addition, our inability to properly design, commence and complete clinical trials may negatively impact the timing and results of our clinical trials and ability to seek approvals for our drug candidates.

If we are found in violation of federal or state "fraud and abuse" laws, we may be required to pay a penalty and/or be suspended from participation in federal or state health care programs, which may adversely affect our business, financial condition, and results of operations.

In the United States, we are subject to various federal and state health care "fraud and abuse" laws, including anti-kickback laws, false claims laws and other laws intended to reduce fraud and abuse in federal and state health care programs, which could affect us particularly upon successful commercialization of our products in the U.S. The Medicare and Medicaid Patient Protection Act of 1987, or federal Anti-Kickback Statute, makes it illegal for any person, including a prescription drug manufacturer (or a party acting on its behalf), to knowingly and willfully solicit, receive, offer or pay any remuneration that is intended to induce the referral of business, including the purchase, order or prescription of a particular drug for which payment may be made under a federal health care program, such as Medicare or Medicaid. Under federal law, some arrangements, known as safe harbors, are deemed not to violate the federal Anti-Kickback Statute. Although we seek to structure our business arrangements in compliance with all applicable requirements, it is often difficult to determine precisely how the law will be applied in specific circumstances. Accordingly, it is possible that our practices may be challenged under the federal Anti-Kickback Statute and Federal False Claims Act. Violations of fraud and abuse laws may be punishable by criminal and/or civil sanctions, including fines and/or exclusion or suspension from federal and state health care programs such as Medicare and Medicaid and debarment from contracting with the U.S. government. In addition, private individuals have the ability to bring actions on behalf of the government under the federal False Claims Act as well as under the false claims laws of several states.

Many states have adopted laws similar to the federal anti-kickback statute, some of which apply to the referral of patients for health care services reimbursed by any source, not just governmental payers. There are ambiguities as to what is required to comply with these state requirements and if we fail to comply with an applicable state law requirement, we could be subject to penalties.

Neither the government nor the courts have provided definitive guidance on the application of fraud and abuse laws to our business. Law enforcement authorities are increasingly focused on enforcing these laws, and it is possible that some of our practices may be challenged under these laws. While we believe we have structured our business arrangements to comply with these laws, it is possible that the government could allege violations of, or convict us of violating, these laws. If we are found in violation of one of these laws, we could be required to pay a penalty and could be suspended or excluded from participation in federal or state health care programs, and our business,

results of operations and financial condition may be adversely affected.

Serious adverse events or other safety risks could require us to abandon development and preclude, delay or limit approval of our product candidates, limit the scope of any approved label or market acceptance, or cause the recall or loss of marketing approval of products that are already marketed.

If any of our product candidates prior to or after any approval for commercial sale, cause serious or unexpected side effects, or are associated with other safety risks such as misuse, abuse or diversion, a number of potentially significant negative consequences could result, including:

- regulatory authorities may interrupt, delay or halt clinical trials;
- regulatory authorities may deny regulatory approval of our product candidates;
- regulatory authorities may require certain labeling statements, such as warnings or contraindications or limitations on the indications for use, and/or impose restrictions on distribution in the form of a REMS in connection with approval or post-approval;
- regulatory authorities may withdraw their approval, require more onerous labeling statements, impose a more restrictive Risk Evaluation and Mitigation Strategy ("REMS"), or require us to recall any product that is approved;
- we may be required to change the way the product is administered or conduct additional clinical trials;
- our relationships with our collaboration partners may suffer;
- we could be sued and held liable for harm caused to patients; or
- our reputation may suffer. The reputational risk is heightened with respect to those of our product candidates that are being developed for pediatric indications.

We may voluntarily suspend or terminate our clinical trials if at any time we believe that they present an unacceptable risk to participants or if preliminary data demonstrate that our product candidates are unlikely to receive regulatory approval or unlikely to be successfully commercialized. Following receipt of approval for commercial sale of a product we may voluntarily withdraw or recall that product from the market if at any time we believe that its use, or a person's exposure to it, may cause adverse health consequences or death. To date we have not withdrawn, recalled, or taken any other action, voluntary or mandatory, to remove an approved product from the market. In addition, regulatory agencies, IRBs, or data safety monitoring boards may at any time recommend the temporary or permanent discontinuation of our clinical trials or request that we cease using investigators in the clinical trials if they believe that the clinical trials are not being conducted in accordance with applicable regulatory requirements, or that they present an unacceptable safety risk to participants. Although we have never been asked by a regulatory agency, IRB, or data safety monitoring board to discontinue a clinical trial temporarily or permanently, if we elect or are forced to suspend or terminate a clinical trial of any of our product candidates, the commercial prospects for that product will be harmed and our ability to generate product revenue from that product may be delayed or eliminated. Furthermore, any of these events may result in labeling statements such as warnings or contraindications. In addition, such events or labeling could prevent us or our partners from achieving or maintaining market acceptance of the affected product and could substantially increase the costs of commercializing our product candidates and impair our ability to generate revenue from the commercialization of these products either by us or by our collaboration partners.

Risks Related to Our Reliance Upon Third Parties

Our existing collaboration arrangements and any that we may enter into in the future may not be successful, which could adversely affect our ability to develop and commercialize our product candidates.

We may seek additional collaboration arrangements with pharmaceutical or biotechnology companies for the development or commercialization of our product candidates. We may, with respect to our product candidates, enter into new arrangements on a selective basis depending on the merits of retaining commercialization rights for ourselves as compared to entering into selective collaboration arrangements with leading pharmaceutical or biotechnology companies for each product candidate, both in the U.S. and internationally. To the extent that we decide to enter into collaboration agreements, we will face significant competition in seeking appropriate collaborators and the terms of any collaboration or other arrangements that we may establish may not be favorable to us.

Any existing or future collaboration that we enter may not be successful. The success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Collaborators generally have significant discretion in determining the efforts and resources that they will apply to these collaborations. Disagreements between parties to a collaboration arrangement regarding development, intellectual property, regulatory or commercialization matters can lead to delays in the development process or commercialization of the applicable product candidate and, in some cases, termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision-making authority. Any such termination or expiration could harm our business reputation and may adversely affect us financially.

We depend on a limited number of suppliers for materials and components required to manufacture our product candidates. The loss of these suppliers, or their failure to supply us on a timely basis, could cause delays in our current and future capacity and adversely affect our business.

We depend on a limited number of suppliers for the materials and components required to manufacture our product candidates. As a result, we may not be able to obtain sufficient quantities of critical materials and components in the future. A delay or interruption by our suppliers may also harm our business, results of operations and financial condition. In addition, the lead time needed to establish a relationship with a new supplier can be lengthy, and we may experience delays in meeting demand in the event we must switch to a new supplier. The time and effort to qualify for and, in some cases, obtain regulatory approval for a new supplier could result in additional costs, diversion of resources or reduced manufacturing yields, any of which would negatively impact our operating results. Our dependence on single-source suppliers exposes us to numerous risks, including the following: our suppliers may cease or reduce production or deliveries, raise prices or renegotiate terms; our suppliers may become insolvent or cease trading; we may be unable to locate a suitable replacement supplier on acceptable terms or on a timely basis, or at all; and delays caused by supply issues may harm our reputation, frustrate our customers and cause them to turn to our competitors for future needs.

We maintain our cash at financial institutions, at times in balances that exceed federally insured limits. The failure of financial institutions could adversely affect our ability to pay operational expenses or make other payments.

Our cash held in non-interest-bearing and interest-bearing accounts can at times exceed the Federal Deposit Insurance Corporation ("FDIC") insurance limits. If such banking institutions were to fail, we could lose all or a portion of those amounts held in excess of such insurance limitations. In addition, even if account holders are ultimately made whole with respect to a future bank failure, account holders' access to their accounts and assets held in their accounts may be substantially delayed. Any material loss that we may experience in the future or inability for a material time period to access our cash and cash equivalents could have an adverse effect on our ability to pay our operational

expenses or make other payments, which could adversely affect our business.

Risks Related to Our Intellectual Property

We may not be able to adequately protect our product candidates or our proprietary technology in the marketplace.

Our success will depend, in part, on our ability to obtain patents, protect our trade secrets and operate without infringing on the proprietary rights of others. We may rely upon a combination of patents, trade secret protection (i.e., know-how), trademarks, licenses, and confidentiality agreements to protect the intellectual property of our product candidates. The strengths of patents in the pharmaceutical field involve complex legal and scientific questions and can be uncertain. Where appropriate, we seek patent protection for certain aspects of our products and technology. However, patent protection for naturally occurring compounds is exceedingly difficult to obtain, defend and enforce. Filing, prosecuting and defending patents throughout the world would be prohibitively expensive, so our policy is to look to patent technologies with commercial potential in jurisdictions with significant commercial opportunities. However, patent protection may not be available for some of the products or technology we are developing. If we must spend significant time and money protecting, defending, or enforcing our patents, designing around patents held by others or licensing, potentially for large fees, patents or other proprietary rights held by others, our business, results of operations and financial condition may be harmed. We may not develop additional proprietary products that are patentable.

The patent positions of pharmaceutical products are complex and uncertain. The scope and extent of patent protection for our product candidates are particularly uncertain. To date, our principal product candidates have been based on specific formulations of certain previously known cannabinoids found in nature in the cannabis sativa plant. While we have sought patent protection, where appropriate, directed to, among other things, composition-of-matter for our specific formulations, their methods of use, and methods of manufacture, we do not have and will not be able to obtain composition of matter protection on these previously known cannabinoids per se. We anticipate that the products we develop in the future will continue to be based on the same or other naturally occurring compounds, as well as additional synthetic compounds we may discover. Although we have sought and expect to continue to seek patent protection for our product candidates, their methods of use, and methods of manufacture, any, or all of them may not be subject to effective patent protection. If any of our products are approved and marketed for an indication for which we do not have an issued patent, our ability to use our patents to prevent a competitor from commercializing a non-branded version of our commercial products for that non-patented indication could be significantly impaired or even eliminated.

Publication of information related to our product candidates by us, or others may prevent us from obtaining or enforcing patents relating to these products and product candidates. Furthermore, others may independently develop similar products, may duplicate our products, or may design around our patent rights. In addition, any of our issued patents may be opposed and/or declared invalid or unenforceable. If we fail to adequately protect our intellectual property, we may face competition from companies who attempt to create a generic product to compete with our product candidates. We may also face competition from companies who develop a substantially similar product to one of our product candidates that is not covered by any of our patents.

If third parties claim that the Company's intellectual property, products, processes, or anything else used by us infringes upon their intellectual property, our operating profits could be adversely affected.

There is a substantial amount of litigation, both within and outside the U.S., involving patent and other intellectual property rights in the pharmaceutical industry. We may, from time to time, be notified of claims that we are infringing upon patents, trademarks, copyrights, or other intellectual property rights owned by third parties, and we cannot provide assurances that other companies will not, in the future, pursue such infringement claims against us, our commercial partners or any third-party proprietary technologies we have licensed. If we were found to infringe upon a patent or other intellectual property right, or if we failed to obtain or renew a license under a patent or other intellectual property right from a third party, or if a third party that we were licensing technologies from was found to infringe upon a patent or other intellectual property rights of another third party, we may be required to pay damages, including damages of up to three times the damages found or assessed, if the infringement is found to be willful, suspend the manufacture of certain products or reengineer or rebrand our products, if feasible, or we may be unable to enter certain new product markets. Any such claims could also be expensive and time consuming to defend and divert management's attention and resources. Our competitive position could suffer as a result. In addition, if we have declined or failed to enter into a valid non-disclosure or assignment agreement for any reason, we may not own the invention or our intellectual property, and our products may not be adequately protected. Thus, we cannot guarantee that our product candidates, or our commercialization thereof, does not and will not infringe any third party's intellectual property.

We own the rights associated with our patents in the United States, but we do not own the rights to patents covering MIRA1a in foreign jurisdictions.

We own the patent relating to MIRA1a in the United States. Foreign patents covering MIRA1a and its therapeutic uses have issued in Australia, Belgium, Canada, Czech Republic, France, Germany, Greece, Netherlands, Hungary, Ireland, Israel, Italy, Malta, Poland, Portugal, Romania, South Korea, Spain, Sweden, and the United Kingdom, and corresponding applications are pending in China and Japan. MyMD Pharmaceuticals, Inc. (Nasdaq: MYMD, "MyMD"), a publicly traded New Jersey corporation, currently owns these foreign patents and patent applications. We currently have no plans to develop the MIRA1a compound for approval and commercialization outside of the United States or for manufacture outside of the United States, including in the foreign jurisdictions in which MyMD has patent rights. We may in the future seek an agreement to license or purchase all or a portion of such foreign patent rights from MyMD, but we have no current plans to do so and there is no assurance that we would be able to successfully conclude such an agreement. If we are unable to obtain foreign patent rights to MIRA1a from MyMD, MyMD may retain such patent rights, in which case we would not have the ability to commercialize MIRA1a outside of the United States in jurisdictions in which MyMD has foreign patent rights, and MyMD potentially could develop a competing product for such jurisdictions outside of the United States.

Risks Relating to our Common Stock

Because of the speculative nature of investment risk, you may lose your entire investment.

An investment in our securities carries a high degree of risk and should be considered as a speculative investment. We have a limited operating history, no revenues, have not paid dividends, and are unlikely to pay dividends in the immediate or near future. The likelihood of our success must be considered in light of the problems, expenses, difficulties, complications and delays frequently encountered in connection with the establishment of any business. An investment in our securities may result in the loss of an investor's entire investment. Only potential investors who are experienced in high-risk investments and who can afford to lose their entire investment should consider an investment in our securities.

The requirements of being a public company may strain our resources, divert management's attention and affect our ability to attract and retain executive management and qualified board members.

As a reporting issuer, we will be subject to the reporting requirements of applicable securities legislation of the jurisdiction in which it is a reporting issuer, the listing requirements of Nasdaq and other applicable securities rules and regulations. Compliance with these rules and regulations will increase our legal and financial compliance costs, make some activities more difficult, time-consuming or costly and increase demand on its systems and resources. Applicable securities laws will require us to, among other things, file certain annual and quarterly reports with respect to its business and results of operations. In addition, applicable securities laws require us to, among other things, maintain effective disclosure controls and procedures and internal control over financial reporting.

In order to maintain and, if required, improve its disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight are required. Specifically, due to the increasing complexity of its transactions, it is anticipated that we will improve our disclosure controls and procedures and internal control over financial reporting primarily through the continued development and implementation of formal policies, improved processes and documentation procedures, as well as the continued sourcing of additional finance resources. As a result, management's attention may be diverted from other business concerns, which could harm our business and results of operations. To comply with these requirements, we may need to hire more employees in the future or engage outside consultants, which will increase its costs and expenses.

In addition, changing laws, regulations and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs and making some activities more time consuming. These laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to continue to invest resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate legal proceedings against us, which could adversely affect our business and financial results.

As a public company subject to these rules and regulations, we may find it more expensive for it to obtain director and officer liability insurance, and it may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of its Board, particularly to serve on its Audit Committee and Compensation Committee, and qualified executive officers.

As a result of disclosure of information in filings required of a public company, our business and financial condition will become more visible, which may result in threatened or actual litigation, including by competitors and other third parties. If such claims are successful, our business and results of operations could be harmed, and even if the claims do not result in litigation or are resolved in its favor, these claims, and the time and resources necessary to resolve them, could divert the resources of our management and harm its business and results of operations.

We are an "emerging growth company," and any decision on our part to comply only with certain reduced reporting and disclosure requirements applicable to emerging growth companies could make shares of our common stock less attractive to investors.

We are an "emerging growth company," as defined in Section 2(a) of the Securities Act. For as long as we continue to be an emerging growth company, we may choose to take advantage of exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies, including, but not limited to, not being required to have our independent registered public accounting firm audit our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We could be an emerging growth company until the fifth anniversary of the fiscal year end date following the completion of this offering, however, our status would change more quickly if we have more than US$1.235 billion in annual revenue, if the market value of our shares of common stock held by non-affiliates equals or exceeds US$700 million as of June 30 of any year, or we issue more than US$1.0 billion of non-convertible debt over a three-year period before the end of that period.

Investors could find our shares less attractive if we choose to rely on these exemptions. If some investors find shares less attractive as a result of any choice to reduce future disclosure, there may be a less active trading market for our shares and our share price may be more volatile.

For as long as we are an "emerging growth company", our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404. We could be an "emerging growth company" until the fifth anniversary of the fiscal year end date following the completion of this offering. An independent assessment of the effectiveness of our internal controls could detect problems that our management's assessment might not. Undetected material weaknesses in our internal controls could lead to financial statement restatements and require us to incur the expense of remediation.

If we identify material weaknesses in our internal control over financial reporting, or if we are unable to comply with the requirements of Section 404 in a timely manner or assert that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal control over financial reporting when required, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our securities could be negatively affected, and we could become subject to investigations by the stock exchange on which our securities are listed, the SEC, or other regulatory authorities, which could require additional financial and management resources.

Additionally, we are a "smaller reporting company" as defined in Item 10(f)(1) of Regulation S-K. Smaller reporting companies may take advantage of certain reduced disclosure obligations, including, among other things, providing only two years of audited financial statements. We will remain a smaller reporting company until the last day of any fiscal year for so long as either: (i) the market value of our shares of common stock held by non-affiliates does not equal or exceed $250 million as of the prior June 30th; or (ii) our annual revenues did not equal or exceed $100 million during such completed fiscal year. To the extent we take advantage of such reduced disclosure obligations, it may also make the comparison of our financial statements with other public companies difficult or impossible.

Our management will have broad discretion over the use of the proceeds we receive in this offering and might not apply the proceeds in ways that increase the value of your investment.

Our management will have broad discretion over the use of our net proceeds from this offering and you will be relying on the judgment of our management regarding the application of these proceeds. Our management might not use our net proceeds in ways that ultimately increase the value of your investment. We expect to use the net proceeds from this offering to advance the clinical development of our programs, to fund our research and development activities and to fund working capital and for general corporate purposes. Our management might not be able to yield a significant return, if any, on any investment or use of these net proceeds. You will not have the opportunity to influence the decision on how to use the net proceeds from this offering.

If we fail to maintain compliance with Nasdaq Listing Rules, our shares may be delisted from Nasdaq, which would result in a limited trading market for our shares and make obtaining future debt or equity financing more difficult for the Company.

We have applied to have shares of our common stock sold in this offering listed on the Nasdaq under the symbol "MIRA". However, there is no assurance that we will be able to continue to maintain our compliance with the Nasdaq continued listing requirements. If we fail to do so, our securities may lose their status on Nasdaq and they would likely be traded on the over-the-counter markets, including the Pink Sheets market. As a result, selling our securities could be more difficult because smaller quantities of shares or warrants would likely be bought and sold, transactions could be delayed, and security analysts' coverage of us may be reduced. In addition, in the event our securities are delisted, broker dealers would bear certain regulatory burdens which may discourage broker dealers from effecting transactions in the securities and further limit the liquidity of the securities. These factors could result in lower prices and larger spreads in the bid and ask prices for the securities. Such delisting from Nasdaq and continued or further declines in the share price of the securities could also greatly impair our ability to raise additional necessary capital through equity or debt financing and could significantly increase the ownership dilution to shareholders caused by our issuing equity in financing or other transactions.

If our shares were to be delisted from Nasdaq, they may become subject to the SEC's "penny stock" rules.

Delisting from Nasdaq may cause the securities of the Company to become subject to the SEC's "penny stock" rules. The SEC generally defines a penny stock as an equity security that has a market price of less than $5.00 per share or an exercise price of less than $5.00 per share, subject to certain exemptions. One such exemption is to be listed on Nasdaq. Therefore, if shares of our common stock were to be delisted from Nasdaq, the securities of the Company could become subject to the SEC's "penny stock" rules. These rules require, among other things, that any broker engaging in a purchase or sale of our securities provide its customers with: (i) a risk disclosure document, (ii) disclosure of market quotations, if any, (iii) disclosure of the compensation of the broker and its salespersons in the transaction, and (iv) monthly account statements showing the market values of our securities held in the customer's accounts. A broker would be required to provide the bid and offer quotations and compensation information before effecting the transaction. This information must be contained in the customer's confirmation. Generally, brokers are less willing to effect transactions in penny stocks due to these additional delivery requirements. These requirements may make it more difficult for shareholders to purchase or sell the shares of our common stock. Since the broker, not us, prepares this information, we would not be able to assure that such information is accurate, complete or current.

You will experience immediate and substantial dilution as a result of this offering and may experience additional dilution in the future.

If you purchase shares in this offering, the value of your shares based on our actual book value will immediately be less than the price you paid. This reduction in the value of your equity is known as dilution. This dilution occurs in large part because our existing stockholders paid less than the assumed public offering price when they acquired their shares of common stock. Based upon the issuance and sale of [●] shares of common stock by us in this offering at an assumed public offering price of $[●] per share, you will incur immediate dilution of in the net tangible book value per share. If the underwriters exercise their over-allotment option, or if outstanding options to purchase shares of our common stock are exercised, investors will experience additional dilution. For more information, see "Dilution".

There is no existing market for our securities and we do not know if one will develop to provide you with adequate liquidity.

Prior to this offering, there has not been a public market for our securities. We cannot assure you that an active trading market for shares of our common stock will develop following this offering, or if it does develop, it may not be maintained. You may not be able to sell your shares of our common stock quickly or at the market price if trading in our securities is not active. The initial public offering price for the shares of common stock offered hereby will be determined by negotiations between us and the underwriter and may not be indicative of prices that will prevail in the trading market.

Some provisions of Florida law and our amended and restated articles of incorporation and amended and restated bylaws that will be in effect immediately prior to the completion of this offering may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our shareholders, and may prevent attempts by our shareholders to replace or remove our current management.

Upon the closing of this offering, our status as a Florida corporation and the anti-takeover provisions of the Florida Business Corporation Act, which we sometimes refer to as the FBCA, may discourage, delay or prevent a change in control even if a change in control would be beneficial to our shareholders.

The control share acquisition statute, Section 607.0902 of the FBCA, generally provides that in the event a person acquires voting shares of the company in excess of 20% of the voting power of all of our issued and outstanding shares, such acquired shares will not have any voting rights unless such rights are restored by the holders of a majority of the votes of each class or series entitled to vote separately, excluding shares held by the person acquiring the control shares or any of our officers or employees who are also directors of the company. Certain acquisitions of shares are exempt from these rules, such as shares acquired pursuant to the laws of intestate succession or pursuant to a gift or testamentary transfer, pursuant to a merger or share exchange effected in compliance with the FBCA if we are a party to the agreement, or pursuant to an acquisition of our shares if the acquisition has been approved by our board of directors before the acquisition. The control share acquisition statute generally applies to any "issuing public corporation," which means a Florida corporation which has:

- One hundred or more shareholders;
- Its principal place of business, its principal office, or substantial assets within Florida; and
- Either (i) more than 10% of its shareholders are resident in Florida; (ii) more than 10% of its shares are owned by residents of Florida; or (iii) one thousand shareholders are resident in Florida.

The affiliated transaction (or so-called "business combination") statute, Section 607.0901 of the FBCA, provides that we may not engage in certain mergers, consolidations, sales of assets, issuances of stock, reclassifications, recapitalizations, and other affiliated transactions with any "interested shareholder" for a period of three years following the time that such shareholder became an interested shareholder, unless:

- Prior to the time that such shareholder became an interested shareholder, our board of directors approved either the affiliated transaction or the transaction which resulted in the shareholder becoming an interested shareholder; or
- Upon consummation of the transaction that resulted in the shareholder becoming an interested shareholder, the interested shareholder owned at least 85% of our voting shares outstanding at the time the transaction commenced; or
- At or subsequent to the time that such shareholder became an interested shareholder, the affiliated transaction is approved by our board of directors and authorized at an annual or special meeting of shareholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting shares which are not owned by the interested shareholder.

An "interested shareholder" is generally defined as any person who is the beneficial owner of more than 15% of our outstanding voting shares.

The voting requirements set forth above do not apply to a particular affiliated transaction if one or more conditions are met, including, but not limited to, the following: if the affiliated transaction has been approved by a majority of our disinterested directors; if we have not had more than 300 shareholders of record at any time during the three years preceding the date the affiliated transaction is announced; if the interested shareholder has been the beneficial owner of at least 80% of our outstanding voting shares for at least three years preceding the date the affiliated transaction is announced; or if the consideration to be paid to the holders of each class or series of voting shares in the affiliated transaction meets certain requirements of the statute with respect to form and amount, among other things.

Both the control share acquisition statute and the affiliated transactions statute may have the effect of discouraging or preventing certain change of control or takeover transactions involving us.

In addition, our amended and restated articles of incorporation and amended and restated bylaws that will be in effect immediately prior to the completion of this offering contain provisions that may make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our shareholders, including transactions in which shareholders might otherwise receive a premium for their shares. These provisions include:

- nothing in our amended and restated articles of incorporation precludes future issuances without shareholder approval of the authorized but unissued shares of our common stock;

- advance notice procedures apply for shareholders to nominate candidates for election as directors or to bring matters before an annual meeting of shareholders;

- a special meeting of shareholders can only be called by our chairman of the board of directors, our chief executive officer, our president (in the absence of a chief executive officer), a majority of our board of directors or the holders of 10% or more of all of our votes entitled to be cast on any issue proposed to be considered at the special meeting of shareholders;

- no provision in our amended and restated articles of incorporation or amended and restated bylaws provides for cumulative voting, which limits the ability of minority shareholders to elect director candidates;

- directors will only be able to be removed for cause;

- our amended and restated articles of incorporation authorizes undesignated preferred stock, the terms of which may be established and shares of which may be issued, without the approval of the holders of our capital stock; and

- certain litigation against us can only be brought in Florida.

These provisions could discourage, delay or prevent a transaction involving a change in control of our company. These provisions could also discourage proxy contests and make it more difficult for you and other shareholders to elect directors of your choosing and cause us to take corporate actions other than those you desire. See "Description of Capital Stock."

Our amended and restated bylaws that will be in effect immediately prior to the completion of this offering designates the state courts located within the state of Florida as the exclusive forum for substantially all disputes between us and our shareholders and the federal district courts as the exclusive forum for Securities Act claims, which could limit our shareholders' ability to obtain a favorable judicial forum for disputes with us.

Our amended and restated bylaws that will be in effect immediately prior to the completion of this offering provide that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our current or former directors, officers or other employees to us or our shareholders, (iii) any action arising pursuant to any provision of the FBCA, our amended and restated articles of incorporation or our amended and restated bylaws, or (iv) any other action asserting a claim that is governed by the internal affairs doctrine shall be a state court located within the state of Florida (or, if a state court located within the state of Florida does not have jurisdiction, the federal district court for the Middle District of Florida); provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act, or to any claim for which the federal courts have exclusive jurisdiction. Our amended and restated bylaws that will be in effect immediately prior to the completion of this offering also provide that, unless we consent in writing to the selection of an alternative forum, the U.S. federal district courts shall be the exclusive forum for the resolution of any claims arising under the Securities Act. Under the Securities Act, federal and state courts have concurrent jurisdiction over all suits brought to enforce any duty or liability created by the Securities Act, and investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Accordingly, there is uncertainty as to whether a court would enforce such a forum selection provision as written in connection with claims arising under the Securities Act.

By becoming a shareholder in our company, you will be deemed to have notice of and have consented to the provisions of our amended and restated bylaws related to choice of forum. The choice of forum provisions in our amended and restated bylaws may limit our shareholders' ability to obtain a favorable judicial forum for disputes with us. Additionally, the enforceability of choice of forum provisions in other companies' governing documents has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our amended and restated bylaws to be inapplicable or unenforceable in such action. If so, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, results of operations, and financial condition.

Securities or industry analysts may not regularly publish reports on us, which could cause the price of our securities or trading volumes to decline.

The trading market for our securities could be influenced by research and reports that industry and/or securities analysts may publish us, our business, the market or our competitors. We do not have any control over these analysts and cannot be assured that such analysts will cover us or provide favorable coverage. If any of the analysts who may cover our business change their recommendation regarding our securities adversely, or provide more favorable relative recommendations about our competitors, the price of our securities would likely decline. If any analysts who may cover our business were to cease coverage or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause the price of our securities or trading volumes to decline.

We will likely conduct further offerings of our equity securities in the future, in which case your proportionate interest may become diluted.

We will likely be required to conduct equity offerings in the future to finance our current projects or to finance subsequent projects that we decide to undertake. If our common stock shares are issued in return for additional funds, the price per share could be lower than that paid by our current shareholders. We anticipate continuing to rely on equity sales of our common stock shares in order to fund our business operations. If we issue additional common stock shares or securities convertible into shares of our common stock, your percentage interest in us could become diluted.

We may issue shares of preferred stock in the future, which could make it difficult for another company to acquire us or could otherwise adversely affect holders of our common stock, which could depress the price of our common stock.

Our certificate of incorporation authorizes us to issue one or more series of preferred stock. Our board of directors will have the authority to determine the preferences, limitations and relative rights of the shares of preferred stock and to fix the number of shares constituting any series and the designation of such series, without any further vote or action by our shareholders. Our preferred stock could be issued with voting, liquidation, dividend and other rights superior to the rights of our common stock. The potential issuance of preferred stock may delay or prevent a change in control of us, discouraging bids for our common stock at a premium to the market price, and materially adversely affect the market price and the voting and other rights of the holders of our common stock.

We have never declared or paid any cash dividends or distributions on our capital stock. We do not anticipate paying any cash dividends on our common stock in the foreseeable future.

We have never declared or paid any cash dividends or distributions on our capital stock. We currently intend to retain our future earnings, if any, to support operations and to finance expansion and therefore we do not anticipate paying any cash dividends on our common stock in the foreseeable future.

The declaration, payment and amount of any future dividends will be made at the discretion of the board of directors, and will depend upon, among other things, the results of our operations, cash flows and financial condition, operating and capital requirements, and other factors as the board of directors considers relevant. There is no assurance that future dividends will be paid, and, if dividends are paid, there is no assurance with respect to the amount of any such dividend.

USE OF PROCEEDS

The net proceeds to us from the sale of shares of common stock by us in this offering will be approximately $[●] million, assuming an initial public offering price of $[●] per share (the midpoint of the range set forth on the cover of this prospectus), and after deducting underwriting discounts and commissions and estimated offering expenses.

We intend to use the net proceeds from this offering as follows:

- approximately $5.5 million to advance the clinical development of our programs, including:
  - approximately $2 million to fund our preclinical animal toxicology studies,
  - approximately $1 million for expenses associated with our initial IND application, and
  - approximately $2.5 million for expenses relating to our Phase I clinical trials for MIRA1a;
- approximately $[●] to $[●] to fund our research and development activities; and
- the remaining amounts to fund working capital and general corporate purposes.

Based on our current operating plan, we believe that the net proceeds of this offering, together with our existing cash and cash equivalents, will be sufficient to fund our development and research activities through at least the fourth quarter of 2024, and through the completion of our Phase I clinical trial.

We cannot specify with certainty the particular uses of the net proceeds that we will receive from this offering or the amounts we actually spend on the uses set forth above. Pending the use of proceeds from this offering as described above, we plan to invest the net proceeds that we receive in this offering in short-term and intermediate-term interest-bearing obligations, investment-grade investments, certificates of deposit or direct or guaranteed obligations of the U.S. government. Our management will have broad discretion in the application of the net proceeds from this offering and investors will be relying on the judgment of our management regarding the application of the proceeds.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and future earnings, if any, for use in the operation of our business and do not anticipate paying any cash dividends on our common stock in the foreseeable future. Investors should not purchase our common stock with the expectation of receiving cash dividends.

CAPITALIZATION

The following table sets forth our cash and cash equivalents, as well as our total capitalization, as of March 31, 2023:

- on an actual basis;
- on an as adjusted basis to give effect to our issuance and sale of [●] shares of our common stock in this offering (assuming no exercise of the underwriters' overallotment option) at an assumed initial public offering price of $[●] per share (the midpoint of the range set forth on the cover of this prospectus), and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this table together with our financial statements and related notes and the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" that are included elsewhere in this prospectus.

	As of March 31, 2023	
	Actual (unaudited)	As Adjusted [1] (unaudited)
Cash	$ 1,349	$ -
Debt		
Related party line of credit	$ 219,542	
Advances from affiliates	685,458	
Other liabilities	1,282,056	
Stockholders' deficit:		
Preferred Stock, $0.0001 par value, 10,000,000 shares authorized and none issued or outstanding, actual: [●] shares authorized and none issued or outstanding, as adjusted	-	-
Common Stock, $0.0001 par value; 110,000,000 shares authorized, 13,313,000 issued and outstanding, actual; shares authorized and [●] shares issued and outstanding, as adjusted	6,657	
Additional paid-in capital	8,847,630	
Accumulated deficit	(10,643,763)	
Total stockholders' deficit	(1,789,476)	
Total capitalization	$ 397,580	$ -

(1) A $1.00 increase or decrease in the assumed initial public offering price per share of our common stock would increase or decrease each of cash, additional paid-in-capital and total capitalization on an as adjusted basis by approximately $, assuming the number of shares of our common stock offered by us remains the same and after deducting the estimated underwriting discounts and commissions and offering expenses payable by us.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the public offering price per share of our common stock and the pro forma net tangible book value per share of our common stock immediately after this offering. Dilution in pro forma net tangible book value per share to new investors represents the difference between the amount per share paid by purchasers of shares of our common stock in this offering and the pro forma net tangible book value per share of our common stock immediately after completion of this offering.

Net tangible book value per share is determined by dividing our total tangible assets less our total liabilities and common stock in stockholders' equity (deficit) by the number of shares of our common stock outstanding. Our historical net tangible book value (deficit) as of March 31, 2023, was approximately $[●], or $[●] per share. After giving effect to the sale by us of shares of our common stock in this offering at the assumed public offering price of $[●] per share, the midpoint of the price range per share, and after deducting underwriting discounts and commissions, and estimated offering expenses payable by us, our pro forma net tangible book value as of March 31, 2023, would have been $[●] million, or $[●] per share. This represents an immediate increase in pro forma net tangible book value of $[●] per share to our existing stockholders and an immediate dilution in pro forma net tangible book value of $[●] per share to investors purchasing shares of our common stock in this offering. The following table illustrates this dilution:

Public offering price per share of common stock		$
Historical net tangible book value (deficit) per share as of March 31, 2023	$	
Increase per share attributable to new investors purchasing shares of common stock in this offering		
Pro forma net tangible book value per share immediately after this offering		
Dilution in pro forma net tangible book value per share to new common stock investors in this offering		$

The following table presents, on a pro forma basis as of March 31, 2023, after giving effect to the sale by us of shares of our common stock in this offering at the assumed offering price of $[●] per share, the difference between the directors, officers and their affiliates and the new investors purchasing shares of our common stock in this offering with respect to the number of shares of our common stock purchased from us, the total consideration paid or to be paid to us, and the average price per share paid or to be paid to us by such persons during the last five years and new investors, before deducting underwriting discounts and commissions and estimated offering expenses payable by us:

	Shares Purchased		Total Consideration		Average Price
	Number	Percent	Amount	Percent	Per Share
			($ in millions)		
Directors, officers and their affiliates		%	$	%	$
New investors		%		%	
Total		%	$	%	

If the underwriters exercise in full their option to purchase [●] additional shares of our common stock from us in this offering, the pro forma net tangible book value (deficit) per share after this offering would be $[●] per share and the dilution to new investors in this offering would be $[●] per share. If the underwriters exercise such option in full, the number of shares held by new investors will increase to approximately shares of our common stock, or approximately [●]% of the total number of shares of our common stock outstanding after this offering.

A $1.00 increase (decrease) in the assumed public offering price of $[●] per share would increase (decrease) the as-adjusted net tangible book value per share by $[●], and the dilution per share to new investors in this offering by $[●], assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital through the sale of equity, as common stock, or other securities that are convertible into our common stock, such as convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis provide information which our management believes is relevant to an assessment and understanding of our results of operations and financial condition. You should read the following discussion and analysis of our results of operations and financial condition together with our financial statements and related notes and other information included elsewhere in this prospectus.

In addition to historical financial information, this discussion contains forward-looking statements based upon our current expectations that involve risks and uncertainties. Our actual results could differ materially from such forward-looking statements as a result of various factors, including those set forth under "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements" included elsewhere in this prospectus. Additionally, our historical results are not necessarily indicative of the results that may be expected for any period in the future.

Overview

We are an early pre-clinical-stage pharmaceutical company focused on the development and commercialization of a new molecular synthetic THC analog under investigation for the treatment of adult patients with anxiety and cognitive decline typically associated with early-stage dementia. Our target patient population is also typically presenting with chronic pain. Our initial drug candidate, MIRA1a, if approved by the FDA, may be a significant advancement in the treatment of neuropsychiatric, inflammatory, and neurologic diseases and disorders. Based on pre-clinical and animal studies conducted by us, we believe that MIRA1a enhances the therapeutic potential for treating anxiety, cognitive decline and chronic pain by potentially striking a balance between the beneficial effects of THC and CBD. MIRA1a achieves this by selectively targeting the cannabinoid type 1 ("CB1") and cannabinoid type 2 ("CB2") receptors. Cannabinoid receptors, located throughout the body, are part of the endocannabinoid system, which is involved in a variety of physiological processes and responses including appetite, pain-sensation, mood, and memory. With respect to THC, our clinical studies have shown that MIRA1a may have less potency at CB1 but maintains high binding at CB2. Since CB1 binding corresponds to intoxication, we believe that MIRA1a is potentially less intoxicating than THC while still providing beneficial therapeutic effects.

We had net losses of $1.3 million and $1.5 million for the three months ended March 31, 2023 and March 31, 2022, respectively, and losses of $7.1 million and $2.2 million for the years ended December 31, 2022 and December 31, 2021, respectively.

Reverse Stock Split

Effective June 28, 2023, we completed a reverse stock split of our outstanding common stock upon the filing of our Third Amended and Restated Articles of

Incorporation with the Florida Secretary of State. No fractional shares were or will be issued in connection with the reverse stock split, and all such fractional shares resulting from the reverse stock split were and will be rounded up to the nearest whole number. The shares issuable upon the exercise of our outstanding options and warrants, and the exercise prices of such options and warrants, have been adjusted to reflect the reverse stock split. Unless otherwise noted, the share and per share information in this prospectus reflects the reverse stock split.

Supply Chain Disruption / COVID-19 Business Update

Due to the residual impact of the global COVID-19 pandemic, we have taken measures to secure our research and development activities, while work in laboratories and facilities has been organized to reduce the risk of COVID-19 transmission. The extent of the impact of the COVID-19 pandemic on our business, operations and clinical development timelines and plans remains uncertain, and will depend on certain developments, including the duration and spread of the outbreak and its impact on our clinical trials, CROs, manufacturing process, supply chain, and other third parties with whom we do business, as well as its impact on regulatory authorities and our key scientific and management personnel. While we are experiencing limited financial impacts at this time, given the global economic slowdown, the overall disruption of global supply chains and the other risks and uncertainties associated with the pandemic, our business, financial condition, and results of operations ultimately could be materially adversely affected. Some of our suppliers have experienced delays in securing critical raw materials; while this has not materially impacted their services, we have observed delays in certain activities. Therefore, we continue to closely monitor the COVID-19 pandemic as we evolve our business continuity plans, clinical development plans and response strategy.

Components of our Results of Operations

Research and Development Expenses

Research and development expenses represent costs incurred to conduct research and development of our product candidate. We recognize all research and development costs as they are incurred. Research and development expenses consist primarily of the following:

- salaries and benefits;
- contracted research and manufacturing;

- consulting arrangements; and
- other expenses incurred to advance the Company's research and development activities.

Our operating expenses have historically been the costs associated with our patent prosecution and initial investment in pre-clinical research and development activities. We expect research and development expenses will increase in the future as we advance MIRA1a into and through clinical trials and pursue regulatory approvals, which will require a significant investment in costs of clinical trials, regulatory support, and contract manufacturing. In addition, we will evaluate opportunities to acquire or in-license additional product candidates and technologies, which may result in higher research and development expenses due to license fee and/or milestone payments, as well as added clinical development costs.

The process of conducting clinical trials necessary to obtain regulatory approval is costly and time consuming. We may never succeed in timely development and achieving regulatory approval for our product candidates. The probability of success of our product candidates may be affected by numerous factors, including clinical data, competition, manufacturing capability and commercial viability. As a result, we are unable to determine the duration and completion costs of our development projects or when and to what extent we will generate revenue from the commercialization and sale of our product candidates.

General and Administrative Expenses

General and administrative expenses consist of employee-related expenses, including salaries, benefits, and travel, and other administrative functions, as well as fees paid for legal, accounting and tax services, consulting fees and facilities costs not otherwise included in research and development expense. Legal costs include general corporate legal fees and patent costs. We expect to incur additional expenses as a result of becoming a public company, including expenses related to compliance with the rules and regulations of the SEC and Nasdaq, additional insurance, investor relations and other administrative expenses and professional services.

Interest expense

Interest expense consists of accrued interest on a related party line of credit.

Results of Operations for three months ended March 31, 2023 and 2022

	Three months ended March 31,	
	2023	**2022**
Revenues	$ -	$ -
Operating costs:		
General and administrative expenses	614,235	617,234
Related party travel costs	453,550	374,900
Research and development expenses	271,606	479,050
Total operating costs	1,339,391	1,471,184
Interest expense	(1,653)	(3,862)
Net loss	**$ (1,341,044)**	**$ (1,475,046)**

General and Administrative Expenses. We incurred general and administrative expenses of $0.6 million during each of the three-month periods ended March 31, 2023 and March 31, 2022, which consisted of payroll, consulting fees, IT-related costs, legal and accounting costs, office and rent expenses, and expenses related to investor relations. We incurred $0.06 million of general and administrative stock compensation for the three months ended March 31, 2023. There was no such related stock compensation expense for the same period in 2022.

Related party travel costs. During the three months ended March 31, 2023, we incurred related-party travel costs of $0.5 million compared to $0.4 million during the three months ended March 31, 2022. Our related party travel costs consist of payments made in connection with an airplane lease which began in May 2021. We lease an aircraft under an operating lease with Supera Aviation I, LLC, (Supera Aviation) with monthly rental of $0.05 million plus certain operating expenses. The Supera Aviation lease took effect on April 20, 2021 for a term of 24 months. However, we and Supera terminated the lease on March 31, 2023. The increase in related party travel during the three months ended March 31, 2023 is due to an increase in related to the expansion of pre-clinical programs, existing and potential vendor visits and preparation for manufacturing, and ongoing Company fund raising efforts.

Research and Development Expenses. We incurred research and development expenses of $0.3 million during the three months ended March 31, 2023, compared to $0.5 million during the three months ended March 31, 2022. The decrease is related to contract timing for our pre-clinical studies. We incurred research and development stock compensation of $0.09 million for the three months ended March 31, 2023. There was no such related stock compensation expense for the same period in 2022. The decrease in research and development expenses during the three months ended March 31, 2023 compared to March 31, 2022 is due to higher upfront costs of the expansion in pre-clinical programs during 2022. Major components of research and development expenses during the three months ended March 31, 2023 are as follows:

R&D Category	Expense
Toxicology	$ 0.15 million
R&D consultants	$ 0.01 million
R&D laboratory costs	$ 0.01 million
R&D stock compensation	$ 0.10 million

Results of Operations for years ended December 31, 2022 and 2021

	Year ended December 31,	
	2022	2021
Revenues	$ -	$ -
Operating costs:		
General and administrative expenses	2,992,125	770,115
Related party travel costs	1,704,350	697,600
Research and development expenses	2,351,465	684,447
Total operating costs	7,047,940	2,152,162
Interest expense	(10,250)	(24,374)
Net loss	**$ (7,058,190)**	**$ (2,176,536)**

General and Administrative Expenses. We incurred general and administrative expenses of $3.0 million during the year ended December 31, 2022, which consisted of payroll, consulting fees, IT-related costs, legal and accounting costs, office and rent expenses, and expenses related to investor relations, compared to $0.8 million during the year ended December 31, 2021, which consisted of payroll, consulting fees, IT-related costs and investor relations costs. We incurred general and administrative stock compensation of $0.7 million for the year ended December 31, 2022. There was no such related stock compensation expense for the year ended 2021.

Related party travel costs. We incurred related party travel costs of $1.7 million during the year ended December 31, 2022, compared to $0.7 million during the year ended December 31, 2021. Our related party travel costs consist of payments made in connection with an airplane lease which began in May 2021. We lease an aircraft under an operating lease with Supera Aviation I, LLC, (Supera Aviation) with monthly rental of approximately $50,000 plus certain operating expenses. The Supera Aviation lease took effect on April 20, 2021 for a term of 24 months, but it was mutually terminated effective March 31, 2023. The increase in related party travel during the year ended December 31, 2022 is due to an increase in related to the expansion of pre-clinical programs, existing and potential vendor visits and preparation for manufacturing, and ongoing Company fund raising efforts.

Research and Development Expenses. We incurred research and development expenses of $2.4 million during the year ended December 31, 2022, compared to $0.7 million during the year ended December 31, 2021, as our contract research organizations (“CROs”) began substantive pre-clinical efforts on MIRA1a, primarily in the fourth quarter of 2021. We incurred research and development stock compensation of $0.55 million for the year ended December 31, 2022. There was no such related stock compensation expense for the year ended 2021. The increase in research and development expenses during 2022 compared to 2021 is due to the expansion of pre-clinical programs during 2022. Major components of research and development expenses during 2022 is as follows:

R&D Category	Expense
Toxicology	$ 1.1 million
Pre-clinical research	$ 0.4 million
R&D consultants	$ 0.3 million
R&D laboratory costs	$ 0.05 million
R&D stock compensation	$ 0.55 million

Liquidity and Capital Resources

Since the Company’s inception in September 2020, we have financed our operations primarily through an unsecured line of credit with a major shareholder and through a private placement of shares of our common stock that occurred during the fourth quarter 2021 and during 2022. We intend to finance our research and development and working capital needs from existing cash, potential new sources of debt and equity financing, including the proceeds from our anticipated initial public offering. We may enter into new licensing and commercial partnership agreements.

On April 28, 2023, we entered into a Promissory Note and Loan Agreement with the Bay Shore Trust, a trust established by our founder, Jonnie R. Williams, Sr., and under which various of his family members are beneficiaries. Under this Promissory Note and Loan Agreement (the “Bay Shore Note”), we have the right to borrow up to an aggregate of $5,000,000 from the Bay Shore Trust at any time up to the second anniversary of the issuance of the Bay Shore Note or, if earlier, upon the completion of our initial public offering. Our right to borrow funds under the Bay Shore Note is subject to the absence of a material adverse change in our assets, operations, or prospects. The Bay Share Note, together with accrued interest, will become due and payable on the second anniversary of the issuance of the note, provided that it may be prepaid at any time without penalty. The Bay Shore Note will accrue interest at a rate equal 7% per annum, simple interest, during the first year that the note is outstanding and 10% per annum, simple interest, thereafter. The Bay Shore Note is unsecured. As of June 1, 2023, we have borrowed an aggregate of $0.2 million under the Bay Shore Note. The Bay Shore Note replaced a Line of Credit Agreement that we entered into with The Starwood Trust, a separate trust established by our founder, in May 2021 and pursuant to which we had an outstanding principal balance of $0.2 as of the date of the Bay Shore Note (which outstanding balance was retired with an advance under the Bay Shore Note).

As of March 31, 2023 and December 31, 2022, we had cash of $0.001 million and $0.4 million, respectively. We raised $3.2 million in 2022. Substantially all our equity capital has been raised at $1.00 per share (pre-reverse split). We used $5.6 million in operating activities during the year ended December 31, 2022, compared to $1.4 million in operating activities during the year ended December 31, 2021. We expect that our existing cash and available line of credit, before our anticipated initial public offering, will be sufficient to finance our planned level of operations through the second quarter of 2024.

We currently anticipate that we will seek to monetize our initial product candidate, MIRA1a, at the end of our planned Phase 2 study. Prior to that time, we anticipate

that additional capital may be required to support ongoing activities and further phases of development. Should that be required, our available capital may be consumed more rapidly than currently anticipated, resulting in the need for additional funding. In addition, there can be no assurance that additional funding, when and if required, will be available at commercially favorable terms, if at all.

Accordingly, we may need to raise additional capital, which may be available to us through a variety of sources, including:

- public equity markets;
- private equity financings;
- commercialization agreements and collaborative arrangements;
- sale of product royalty;
- grants and new license revenues;
- bank loans; and
- public or private debt.

Additional funding, capital, or loans (including, without limitation, milestone, or other payments from potential commercialization agreements) may be unavailable on favorable terms, if at all. If adequate funds are not available, we may be required to significantly reduce or refocus our operations or to obtain funds through arrangements that may require us to relinquish rights to certain technologies and drug formulations or potential markets, any of which could have a material adverse effect on us, our financial condition, and our results of operations. To the extent that additional capital is raised through the sale of equity or convertible debt securities or exercise of warrants and options, the issuance of such securities would result in ownership dilution to existing stockholders.

If we are unable to attract additional funds on commercially acceptable terms, it may adversely affect our ability to achieve our development and commercialization goals, which could have a material and adverse effect on our business, results of operations and financial condition.

Recently Issued and Adopted Accounting Pronouncements

A description of recently issued and adopted accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 8 to our financial statements appearing at the end of this prospectus.

Off-Balance Sheet Arrangements

During the periods presented, we did not have, nor do we currently have, any off-balance sheet arrangements as defined under SEC rules.

Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate risks and inflation risks. Periodically, we maintain deposits in accredited financial institutions in excess of the FDIC federally insured limits. We deposit our cash in financial institutions that we believe have high credit quality and have not experienced any losses on such accounts and do not believe we are exposed to any unusual credit risk beyond the normal credit risk associated with commercial banking relationships.

Interest Rate Risk

Our cash consists of cash in readily available checking accounts. We may also invest in short-term money market fund investments. Such interest-earning instruments carry a degree of interest rate risk; however, historical fluctuations in interest income have not been significant.

Inflation Risk

Inflation generally affects us by increasing our cost of labor and research and development contract costs. We do not believe inflation has had a material effect on our results of operations during the periods presented.

BUSINESS

Overview

We are an early pre-clinical-stage pharmaceutical company focused on the development and commercialization of a new molecular synthetic THC analog under investigation for the treatment of adult patients with anxiety and cognitive decline typically associated with early-stage dementia. Our target patient population is also typically presenting with chronic pain. Our drug candidate, MIRA1a, if approved by the FDA, may be a significant advancement in the treatment of neuropsychiatric, inflammatory, and neurologic diseases and disorders. Based on pre-clinical and animal studies conducted by us, we believe that MIRA1a enhances the therapeutic potential for treating anxiety, cognitive decline and chronic pain by potentially striking a balance between the beneficial effects of THC and CBD. MIRA1a achieves this by targeting the cannabinoid type 1 (“CB1”) and cannabinoid type 2 (“CB2”) receptors. Cannabinoid receptors, located throughout the body, are part of the endocannabinoid system, which is involved in a variety of physiological processes and responses including appetite, pain-sensation, mood, and memory. With respect to THC, our preclinical studies have shown that MIRA1a may have less potency at CB1 but maintains high binding at CB2. Since CB1 binding corresponds to intoxication, we believe that MIRA1a is potentially less intoxicating than THC while still providing beneficial therapeutic effects. In addition, by curbing the negative effects of THC (e.g. cognitive impairment), preclinical suggest that MIRA1a may be capable of unmasking positive therapeutic effects not previously seen with THC (e.g. cognitive performance enhancement).

On November 28, 2022, the DEA confirmed in writing that it conducted a scientific review of the chemical structure of MIRA1a in accordance with the definitions within the CSA and its implementing regulations and determined that MIRA1a is not a controlled substance or listed chemical.

We were organized as a Florida corporation in September 2020 and commenced substantive operations in late 2020, at which time we commenced our pharmaceutical development program.

We had net losses of $1.3 million for the three months ended March 31, 2023, $7.1 million for the year ended December 31, 2022, and $2.2 million for year ended

December 31, 2021, respectively.

Our Product Candidate in Development

Our objective is to develop and commercialize new treatment options for neuropsychiatric, inflammatory, and neurologic diseases and disorders. Cannabinoids are a class of chemical compounds that are naturally occurring and are primarily found in cannabis plant extracts. The two major cannabinoids found in cannabis plant extracts include THC and CBD. These compounds bind to CB1 and CB2 cannabinoid receptors, which are found throughout the body. Specifically, CB1 receptors are concentrated in the central nervous system ("CNS"), while CB2 receptors are found mostly in peripheral organs and are associated with the immune system. When the chemical compounds bind to these cannabinoid receptors, the process elicits certain physiological responses. Physiological responses to cannabinoids may vary among individuals. Some of the effects of cannabinoids have been shown to impact nervous system functions, immune responses, muscular motor functions, gastrointestinal maintenance, blood sugar management, and the integrity of ocular functions. Our product candidate, MIRA1a, has a strong selectivity for CB2 versus CB1, and is designed to minimize the risk of psychoactive adverse events associated with CB1 activation.

Mechanism of Action of MIRA1a

We believe that the effects of MIRA1a at the cannabinoid receptors CB1 and CB2 is predicted to account for the majority of its potential therapeutic effects, especially as it relates to its anti-anxiety, anti-pain and anti-inflammatory properties. For example, the difference in the dose-response effects of MIRA1a compared with THC on CB1 receptors appears to coincide with its improved therapeutic profile.

THC is notorious for having biphasic physiological effects, which have been described for over 40 years: at low levels THC has positive effects while high doses cause the opposite, undesirable symptoms. Examples of biphasic effects at low versus high levels of THC include the anti-anxiety versus pro-anxiety effects, respectively. We obtained the following dose-response effects for MIRA1a and THC at the CB1 receptor (see below). In contrast to THC, which displays an initial maximally stimulatory and then inhibitory response at CB1, MIRA1a appears to act as a monophasic partial agonist where it is stimulatory throughout its dose range, achieving a moderate activation of the CB1 even at high doses. We believe that this accounts for the potential broad therapeutic efficacy of MIRA1a and the observed absence of negative symptoms even at maximal doses of the drug.

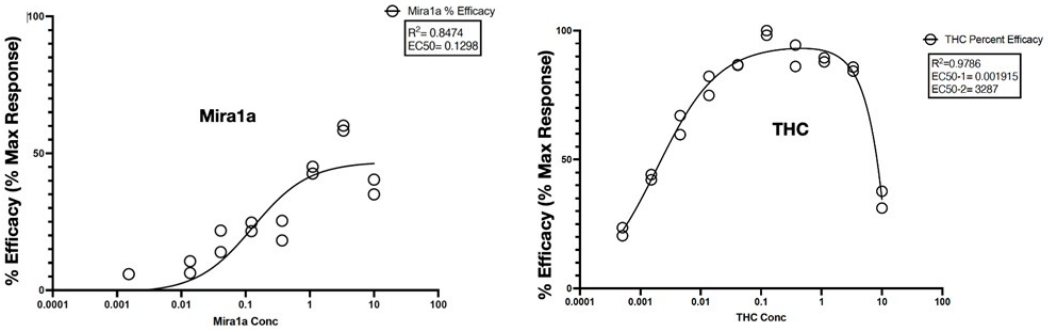


Figure: Compound activity with the selected GPCR Biosensor Assays:
THC vs MIRA1a agonist activity at the CB1 Receptor.

In pharmacology, "efficacy" or "Emax" refers to the maximum response that can be achieved with a drug or agent. It represents the extent or magnitude of the response produced by the drug once it has bound to its target, typically referred to as a receptor. The binding between a drug and its receptor is characterized by affinity, which quantifies the strength of their interaction. Efficacy, however, assesses the action or effect of the drug following binding to the receptor.

The dose-response curve is a commonly used graph in pharmacology that depicts the relationship between the effect of a drug and its dosage. The X-axis represents the increasing doses of the drug, while the Y-axis represents the response produced by the drug. In the case of the figure above, the term "% Efficacy" on the Y-axis refers to the maximum response that can be achieved with the agonist (MIRA1a or THC) in relation to its ability to activate GPCR receptors (specifically CB1 receptors).

The data presented in the figure above has been normalized to the maximal and minimal responses observed in the presence of a control compound and vehicle, respectively. This normalization allows for a standardized comparison of the agonist's efficacy.

Eurofins DiscoverX has developed a panel of cell lines stably expressing non-tagged GPCRs that signal through cAMP. Hit Hunter® cAMP assays monitor the activation of a GPCR via Gi and Gs secondary messenger signaling in a homogenous, non-imaging assay format using a technology developed by DiscoverX called Enzyme Fragment Complementation (EFC) with β-galactosidase (β-Gal) as the functional reporter. In this case, the GPCR target was CB1 receptor. Compounds were tested in agonist and antagonist mode with the requested GPCR Biosensor Assays. For agonist assays, data was normalized to the maximal and minimal response observed in the presence of control ligand and vehicle. This Eurofins DiscoverX system was used to test THC vs MIRA1a agonist activity at the CB1 receptor.

Unlike CB1 receptors that mediate many of the psychotropic effects of cannabinoids on the CNS, CB2 receptors are predominantly present on cells of the immune system. Based on preliminary results of our GPCR biosensor assays, the CB2 receptor agonistic effects of MIRA1a are 8-fold more potent than THC and 30-fold more potent than CBD.

The study regarding the ability of MIRA1a vs THC vs CBD to activate CB2Receptors and alter intracellular cAMP levels was performed by the CRO Eurofins DiscoverX.

As can be seen in the table below, the EC50 (i.e. concentration required to induce a half maximal response) for MIRA1a was 8 times more potent than THC and at least 30 times more potent that CBD—i.e. it only took 1 uM of MIRA1a to induce the same response that required 8 uM of THC and >30 uM of CBD.

Compound Name	Assay Name	Assay Format	Assay Target	Result Type	EC50	Unit
MIRA-1A	cAMP	Agonist	CNR2/CB2	EC50	1.008462	uM
THC	cAMP	Agonist	CNR2/CB2	EC50	8.209884	uM
CBD	cAMP	Agonist	CNR2/CB2	EC50	>30	uM

The foregoing measurements were performed as follows:

DiscoverX has developed a panel of cell lines that stably express non-tagged GPCRs (G-protein coupled receptors) capable of signaling through cAMP. The Hit Hunter® assay platform is used to investigate the functionality and response of these GPCRs.

In the case of the CB2 receptor, which is a GPCR involved in various physiological processes and has potential therapeutic implications, the Hit Hunter® assay can be

employed to study the effects of drug agonists on CB2 receptor activity.

Regarding the application to a drug agonist at the CB2 receptor, which primarily signals through Gαi protein subunits and leads to a decrease in cAMP levels, the Hit Hunter® assay may not be directly applicable. The decrease in cAMP levels mediated by Gαi signaling is not typically measured in this particular assay format.

To measure the half maximal response (EC50) of CB2 receptor activation by a drug agonist that leads to a decrease in cAMP levels, an alternative approach may be required. One common method involves using forskolin, an activator of adenylate cyclase, to stimulate cAMP production. Forskolin bypasses the GPCR signaling and directly activates adenylate cyclase, resulting in increased cAMP levels.

In the presence of forskolin, the drug agonist at the CB2 receptor can then be tested at various concentrations to determine its ability to inhibit the forskolin-induced cAMP production. The drug's concentration that leads to a 50% reduction in forskolin-stimulated cAMP levels can be considered the half maximal response or EC50.

Pre-clinical Developments and Studies

As of the date of this prospectus, we completed several pre-clinical studies of MIRA1a, including, but not limited to, computational mutagenicity analysis, radio-ligand binding assay, elevated plus maze ("EPM") model of anxiety and hot plate model thermal sensitivity testing.

We have studied the effects of acute administration of MIRA1a on anxiety-related phenotypes in mice to model human conditions. An intraperitoneal injection of Placebo [PBO] (e.g. saline) or MIRA1a (e.g. 50mg/kg = Treatment) was administered to C57Bl/6 mice (n=5/group) that were 8-12 weeks old. Thirty minutes following injection, mice were tested in anxiety related measures using the Elevated Plus Maze (EPM). The EPM is a widely used pre-clinical behavioral assay for rodents and it has been validated to assess the anti-anxiety effects of pharmacological agents. If determined and approved by the FDA or other regulatory agencies, MIRA1a has anti-anxiety effects at doses that lacked side effects of sedation or intoxication in mice. The EPM is a test measuring anxiety in rodents as a screening test for putative anxiolytic compounds and as a general research tool in neurobiological anxiety research such as Generalized Anxiety Disorder (GAD) or Post-Traumatic Stress Disorder (PTSD). The model is based on the animal's aversion to open spaces which are present in the open arms (Open Arm) of the maze. Anti-anxiety effects of test agents are demonstrated by an increase in the percentage of time spent in the Open Arm with treatment compared to placebo. The total distance traveled is a measure of the overall level of arousal and mobility of the mice undergoing testing on the EPM and is used to rule out any sedating or intoxicating effects of the test agent.

Pre-clinical studies also have shown the potential of MIRA1a for relieving pain. A number of clinically approved pharmacological agents used to treat pain, including opioids, have been demonstrated to delay or ameliorate the onset of heat sensitivity upon paw exposure of mice to heat. Thirty minutes after treatment with either a placebo (control) or MIRA1a, mice were placed on a heated plate to measure the time it took for each mouse to lift its paw in response to the mild pain they felt from the heat. Mice treated with pain alleviating drugs took significantly longer to become bothered by the heat and to lift their paws. Similarly, mice treated with MIRA1a statistically took significantly more time to lift their legs, indicating MIRA1a's potential effectiveness as a possible treatment for pain in this model.

MIRA1a is a CB2 agonist which may be an optimal treatment for neurodegenerative diseases associated with neuroinflammation caused by microglial activation. CB2 agonism has been shown in pre-clinical studies to regulate neuroinflammatory processes, reducing the neuronal damage characteristic of degeneration. We believe there may be a strong rationale for CB2 agonism in neurodegenerative diseases, given increased CB2 expression in patients with these diseases as well as preliminary results from animal models. We see potential for a potent CB2 agonist to treat a range of neurodegenerative diseases. MIRA1a, through its robust activity at CB2 compared to CB1, was designed to minimize the risk of psychotropic adverse events associated with CB1 activation.

Our pre-clinical development program for MIRA1a has included a variety of testing. Summarized below are the tests we have completed. Our interpretation of results derived from pre-clinical data or our conclusions based on our pre-clinical data may prove inaccurate and are not necessarily predictive indicators of future results.

Completed Pre-Clinical Tests*
• EPM model of anxiety • Thermal Sensitivity Model of Pain • Context Fear Conditioning Model of Cognition—Test of learning and memory. • Rat Psychomotor Vigilance Test ("PVT") of Cognition—Test of attention. *These were non-human studies that were not powered for statistical significance and as such, no p-values are available.

- EPM Model of Anxiety Test:
  - Method: We studied the effect of acute administration of MIRA1a on anxiety-related phenotypes in mice to model human conditions.
    - An intraperitoneal (i.p.) injection of Placebo (e.g. saline) or MIRA1a (e.g. 50mg/kg = Treatment) was administered to C57Bl/6 mice (n=5/group) that were 8-12 weeks old
    - 30 minutes following injection, mice were tested in anxiety related measures using EPM
  - Outcome: The following chart demonstrates MIRA1a's anti-anxiety effects:

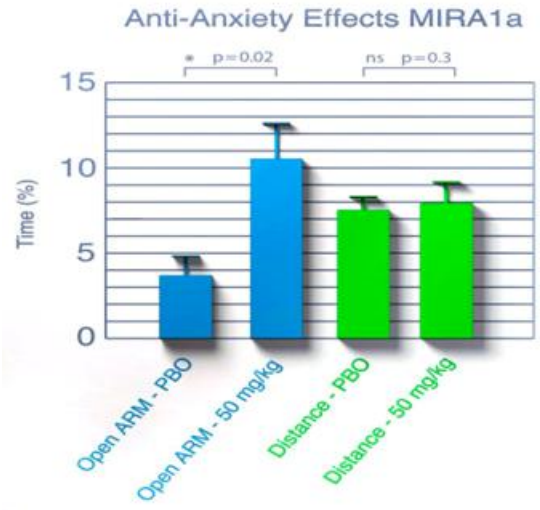


Figure: Effects of MIRA1a vs Placebo Treatment on Mouse Behavior in the Elevated Plus Maze.

EPM is a widely used behavioral test to assess anxiety-like behavior in rodents. Typically, rodents tend to avoid open spaces due to their natural aversion to potentially dangerous areas. Therefore, spending more time in the open arms of the maze indicates decreased anxiety-like behavior. Similarly, the total distance travelled can reflect general locomotor activity and exploratory behavior, which can be influenced by the state of anxiety and the effect of drugs.

The EPM apparatus consists of two open arms and two enclosed arms elevated above the floor. Blue Bars represent the percentage of time spent in the open arms by mice in the placebo and drug-treated groups. Green Bars show the total distance travelled by mice in both groups during the EPM test.

- Thermal Sensitivity Model of Pain:
  - Method: We studied the potential for pain reduction in pre-clinical models of heat tolerance using a hot plate methodology.
  - Outcome: MIRA1a provided significantly delayed thermal sensitivity and enhanced pain tolerance.

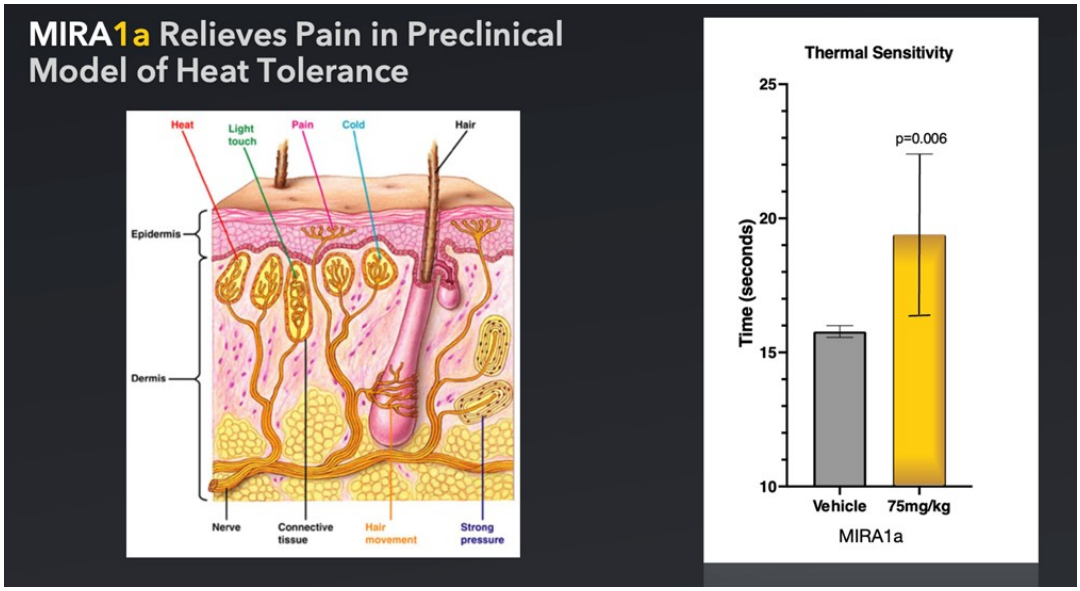


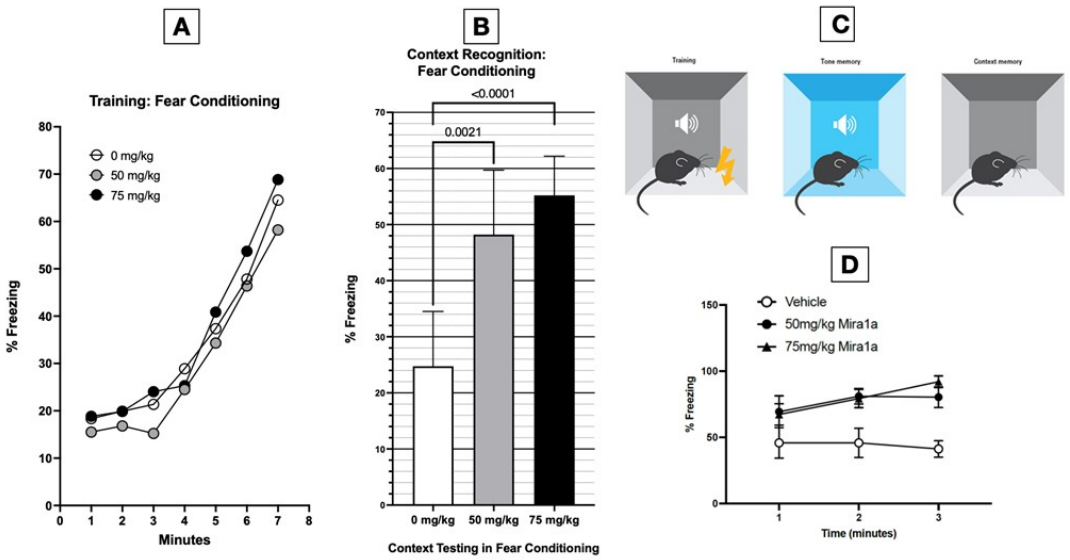
Figure: In this thermal sensitivity test, mice are placed on a heated metal plate (e.g. 52-55 degrees Celsius). The time taken for the mouse to show a pain response - licking or shaking of the paws, jumping, or trying to escape from the hot plate - is measured. This time interval is known as the "hot-plate latency". A longer latency is indicative of reduced pain sensation or a higher pain tolerance.

The Thermal Sensitivity Model of Pain in mice is a widely used experimental approach to study nociception, which is the perception of pain. In this model, thermal stimuli are applied to the hind paws of mice to assess their sensitivity to heat-induced pain. The procedure typically involves placing the mouse on a temperature-controlled surface, such as a hot plate or a radiant heat source. The temperature is gradually increased, and the response of the mouse is measured, such as the latency to withdraw its paw from the heat source. The withdrawal latency is considered an indicator of pain sensitivity, with shorter latencies indicating greater sensitivity. By comparing the response of normal mice to that of mice with altered pain sensitivity, such as genetically modified mice or mice treated with analgesic drugs, researchers can gain insights into the mechanisms underlying pain perception and potential therapeutic interventions. The Thermal Sensitivity Model of Pain in mice provides a controlled and reproducible method for studying thermal nociception, allowing researchers to investigate the effects of various genetic, pharmacological, and environmental factors on pain sensitivity. This model has contributed significantly to our understanding of pain pathways and the development of novel analgesic treatments.

As performed at Johns Hopkins, in our thermal sensitivity test, which measured sensitivity to thermal pain, MIRA1a significantly increased the time it took mice to lift their legs in comparison to placebo (p=0.006) at 75mg/kg. This indicates that MIRA1a has an analgesic effect and may be a potential treatment for pain. Each group (i.e. placebo and 75 mg/kg) was comprised of 9 mice, for a total of 18 mice.

The issue of how to test the effect of MIRA1a on cognition was complicated by the following:1) MIRA1a has anti-anxiety (i.e. anxiolytic) effects, 2) anxiolytics can potentially improve cognitive assessment outcomes by reducing anxiety levels that may otherwise hinder cognitive functioning. Thus, in commonly performed tests of cognition in mice, such as novel object recognition and Morris water maze, anxiolytic medications can indirectly result in improved performance by decreasing anxiety rather than by directly improving cognition. In order to separate assessments of the impact of MIRA1a on cognitive performance from its demonstrated anti-anxiety effects, we employed a model of context fear conditioning wherein we dosed the mice after training. Context fear conditioning in mice is a behavioral paradigm used to measure cognitive processes related to associative learning and memory. Associative learning, where an individual learns to associate specific stimuli or contexts with particular outcomes, in this case the mice associate being in a specific chamber with receiving a mild foot shock that occurs during training the day before testing. This process of forming associations between stimuli, actions, and consequences is involved in numerous skills and behaviors in everyday life: it underlies learning new skills, developing habits, and acquiring knowledge through experiences and conditioning. The use of associating the chamber with the foot shock on day one, means that when the mice are returned to the chamber on day 2 a measure of how much freezing they do corresponds to a read out of how well they can recall the experiences they had during training on day 1 (i.e. the greater the freezing, the better the recollection of the association between the chamber and food shock). Since the mice are given MIRA1a AFTER training that takes place on day 1, and only before testing on day 2, there is no concern about the anxiolytic effects of MIRA1a on learning during training, but rather this model tests MIRA1a's effects on performance only—which in this case represents memory (i.e. the ability to recognize and recall the chamber where they had previously been shocked) and to translate that into an associated behavior (i.e. freezing). As published in the Journal of Neuropharmacology in 2023, THC and cannabis impair context fear conditioning, both when given prior to training (because of its anti-anxiety effects) and when given prior to testing (because of its cognitive impairing effects). As demonstrated in the figure below, MIRA1a resulted a dramatic effect on cognitive performance in the context fear conditioning model: as shown in B, the second panel from the left, the percentage of time spent freezing—that is a demonstration of their memory and association—in the mice who received MIRA1a at a dose of 75 mg/kg was more than twice that of those who received 0 mg/kg=placebo (i.e. 55% vs 25%). Thus, MIRA1a doubled the cognitive performance of the mice compared to placebo. This degree of improvement in cognitive performance in healthy mice dosed just prior to testing and after learning has not been demonstrated with any cannabinoid compound previously.

- Trace Fear Conditioning Model of Cognition:
  - Method: We studied the potential for improving recall in healthy mice using a fear conditioning model.
  - Outcome: MIRA1a sharply improves cognitive recall as dosage rises.



The Contextual Fear Conditioning Model of Cognition in mice is an experimental paradigm used to study associative learning and memory processes. It focuses on the ability of mice to form an association between a specific environmental context and an aversive stimulus, which leads to the acquisition and subsequent retrieval of contextual memories. During the acquisition phase of the model, mice are exposed to a distinct context, such as a particular chamber or environment. In this context, they receive an aversive stimulus, typically a mild foot shock. The presentation of the foot shock creates an association between the contextual cues and the aversive experience. Following the acquisition phase, the mice undergo a testing phase to assess their memory of the association between the context where they received the foot shock and the memory of the aversive stimulus. They are returned to the same context where the conditioning took place and their behavioral responses, particularly fear-related behaviors such as freezing or defensive reactions, are measured.

These behavioral responses serve as indicators of the mice's ability to retrieve the associative memory formed during the acquisition phase. The Contextual Fear Conditioning Model of Cognition in mice has been widely used in neuroscience research to explore the mechanisms of associative learning, memory formation, and the neural circuits involved in fear-related associations. It has contributed to our understanding of how animals, including humans, learn to associate environmental cues with aversive experiences, and has implications for understanding and treating conditions related to associative learning, memory deficits, and emotional disorders.

As performed at Johns Hopkins, in the Contextual Fear Conditioning Model the data shows that during training (in the absence of any treatment) the mice learned as indicated by increased freezing over time. The following day, 30 minutes after MIRA1a administration, the mice were tested in the context test, which showed significantly increased % freezing (p=<0.0001) in females given 50mg/kg or 75mg/kg MIRA1a. The experiments were conducted with 10 mice in each group (placebo, 50 or 75 mg/kg MIRA1a) for a total of 30 mice.

In the context conditioning figure above, mice learn to associate the neutral context (the chamber) with the aversive stimulus (the foot shock), leading to a conditioned fear response (freezing). This is indicated by 'freezing' behavior - a fear-related response in mice characterized by immobility except for respiratory movements.

A timeline of the experimental procedure, indicating acclimatization, training (conditioning), and testing phases is shown above. Panel A, the left-most panel, shows that on day 1 the pairing of a neutral context (the conditioning chamber shown in panel C) with an aversive stimulus (a mild foot shock). With successive foot shocks the mice show increasing amounts of freezing, since they instinctively freeze in anticipation of being shocked. Panel B, titled "Context Recognition: Fear Conditioning," shows the percentage freezing the mice did on day 2 after receiving placebo or MIRA1a just prior to being placed in the same chamber they had been shocked on day 1. Since mice freeze in anticipation of receiving a shock, the relative amount of freezing in those mice given 0 mg/kg (placebo) vs either 50 or 75 mg/kg MIRA1a is a readout of (i.e. proportional to) how well the mice recalled that the chamber they were returned to was the one in which they had been shocked. As shown in panel B, the mice who received 75 mg/kg of MIRA1a right before being placed into the chamber showed 200% of the freezing than did the mice who received placebo (55% vs 25%, respectively. Panel D, in the lower right corner of the figure, shows that at 1 min after being placed in the chamber on day 2, the mice that got vehicle (=0 mg/kg MIRA1a), relative to those that got MIRA1a, have much less freezing, and in fact have less freezing over time. The mice given MIRA1a start off with better recognition and recall of the chamber (demonstrated as increased freezing) at 1 minute and increase the association of the chamber with the prior shocks (because they increase freezing over time).

Because MIRA1a is an anxiolytic, we still wanted to determine if it could impair attention—a different aspect of cognition than memory, recall and associative learning, and one that is affected negatively by sedating compounds (e.g. THC, Cannabis, benzodiazepine, etc) and positively by stimulants (e.g. caffeine, nicotine, amphetamine) In order to assess whether MIRA1a affected attention as compared to THC required a different testing model—Psychomotor Vigilance Test (PVT). The rat Psychomotor Vigilance Test (rPVT) is a widely used method to measure sustained attention in rodents. In the rPVT model, rats are trained to respond to a visual stimulus by pressing a lever, with shorter reaction times indicative of better attentional performance. Mice with longer reaction times or higher variability in response times may be considered to have attention deficits or altered vigilance. Data is shown as percentage accuracy at pressing the lever within the allowed reaction time vs dose of drug used. In the figure below, it can be seen that at doses of THC that impair attention, MIRA1a had no negative effects on attention (i.e. their accuracy at pressing a lever at the right amount of time after receiving a trained cue was not impaired at all).

- Rat PVT of Cognition
  - Method: We performed a PVT to evaluate simple reaction time.
  - Outcome: MIRA1a does not impair cognition. At 3 mg/kg and 10 mg/kg MIRA1a causes minimal impairment in rat PVT whereas THC has a clear negative effect even at these low doses.

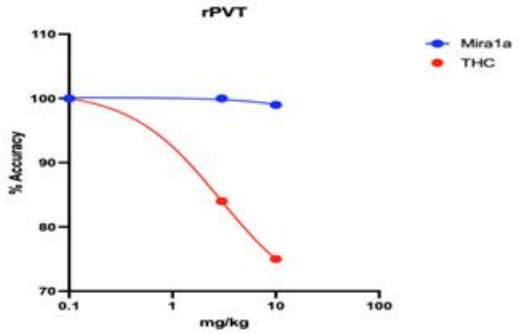


Figure: Comparison of MIRA1a versus THC on Psychomotor Vigilance Test (PVT) Performance in Rats. The figure displays the percentage accuracy of rats in the Psychomotor Vigilance Test (PVT) following administration of MIRA1a (blue) or THC (red). The y-axis represents the percentage accuracy (% Accuracy), indicating the proportion of correct responses in the PVT task. The x-axis represents the treatment condition, with increasing amount of compound being given to the rats before testing. The data shows that rats treated with MIRA1a exhibited no decrease in percentage accuracy compared to the THC group ($p < 0.05$). The results indicate that administration of MIRA1a had no negative impact on attention performance in the PVT task, as evidenced by the maintenance of 100% accuracy across the dosage range, compared to THC that impaired attention leading to decreased accuracy more and more with increasing dosages.

The Psychomotor Vigilance Test (PVT) is a behavioral test used in rats to assess attention and speed of response, providing insights into their vigilance and cognitive performance. It is based on the measurement of reaction times to visual stimuli, typically presented in a simple reaction time task paradigm.

In the PVT, rats are typically placed in an operant chamber or testing apparatus equipped with a visual stimulus, such as a light or LED. The rats are trained to perform a specific response, such as pressing a lever or nose-poking, when the visual stimulus appears. The timing of the visual stimuli is randomized to prevent predictability and maintain the animals' attention.

During the test, the rats are required to pay attention to the visual stimuli and respond as quickly as possible when they appear. The reaction time, which represents the time it takes for the rat to initiate the response upon stimulus presentation, is recorded. This measure reflects the speed of response and can provide an indication of the rat's attentional state and ability to sustain attention over time. By analyzing the reaction time data, researchers can evaluate the rat's attentional performance, including measures such as mean reaction time, variability in response times, and the occurrence of lapses or errors. The PVT has been widely used to investigate the effects of different manipulations, such as pharmacological interventions that cause sedation, sleep deprivation, or experimental treatments, on attention, alertness, and cognitive performance in rats.

Therefore, the combination of cognitive assessments demonstrated the following: despite having anxiolytic effects, 1) MIRA1a significantly improved associative learning, memory and recall in the context fear conditioning model, and 2) MIRA1a had no negative effects on attention at doses that THC showed significant impairment. This is the first time a cannabinoid has been shown to enhance (rather than inhibit) cognition when given to normal healthy mice after training but before testing, demonstrating a specific cognitive improvement as a direct effect on the brain that is independent of indirect effects—such as with acute administration by decreasing anxiety or with long term administration by having anti-inflammatory effects in neurodegenerative diseases.

In 2023, our pre-clinical work will include the conduct of several other pre-clinical studies and initiation of a 7-day maximum tolerated dose study of MIRA1a in rats and dogs.

Status	Planned Activity
Drug Substance Preparation	• Analytical Development • NonGMP Production Refinement • GMP Production Refinement
Testing	• MTD/7D DRF Dog • MTD/7D DRF Rat • Dog 28-day Toxicology • Rat 28-day Toxicology • Cardiovascular Study Dog (Telemetry) • Respiratory Study Rat • hERG (Manual Patch-Clamp) • Neurobehavioral Evaluation Rats • Neurobehavioral Evaluation Mice

We further plan on neurobehavioral evaluation of orally and intraperitoneally administered MIRA1a in rats and mice, respiratory evaluation of orally administered MIRA1a in rats, and in vitro testing for effects of MIRA1a on hERG (the human Ether-à-go-go-Related Gene) channel currents. The hERG is an early in vitro assay required by the FDA to alert companies of any potential cardiac abnormalities by the product before proceeding with dose studies in humans. hERG is a gene that codes for a protein known as the alpha subunit of a potassium ion channel. This ion channel (sometimes simply denoted as 'hERG') is best known for its contribution to the electrical activity of the heart: the hERG channel mediates the repolarizing current in the cardiac action potential, which helps coordinate the heart's beating. When this channel's ability to conduct electrical current across the cell membrane is inhibited or compromised, either by application of drugs or by rare mutations in some individuals, it can result in a potentially fatal disorder called long QT syndrome.

Testing is anticipated to conclude in the first quarter of 2024. Additionally, a 28-day toxicology analysis for dogs and rats is expected to begin at the end of the fourth quarter of 2023 and continue through the first quarter of 2024.

We have started the analytical development and manufacturing of MIRA1a as of January 2023. By the third quarter of 2023, we anticipate our suppliers will be developing MIRA1a at scale and manufactured under cGMP conditions, expanding on earlier non-GMP volumes of MIRA1a for use in our initial testing programs. We plan to work closely with our suppliers to generate sufficient volumes of cGMP-grade MIRA1a materials for the planned pre-clinical toxicity programs, expanded animal testing and human trials expected to be performed in 2024, subject to FDA approval.

Our Clinical Development Program

Following the pre-clinical development plan outlined above, we plan to submit to the FDA an Investigational New Drug application ("IND") focused on investigating MIRA1a for the treatment of anxiety and cognitive decline in elderly patients.

Our first IND application submission investigating MIRA1a for the treatment of elderly patients suffering from anxiety with some cognitive decline is currently planned for the end of the third quarter of 2024, as we believe this is a patient population with unmet needs. If allowed to proceed by the FDA, a Phase I trial will be initiated 30 days post-IND submission.

Our second IND application will focus on investigating MIRA1a for the treatment of chronic pain.

All development plans depend on FDA acceptance of our IND applications. As appropriate and pursuant to discussions with the FDA, we may periodically adjust the timeline for certain filings and associated clinical trials. It is important to note that the process for conducting clinical trials is uncertain and there is no assurance that our clinical development activities will meet the planned timelines set forth above.

Manufacture of Product for Clinical Development Activities

Curia Global (formerly AMRI), a leading global CDMO, is currently developing a large-scale synthesis protocol for us and will be supplying quantities of MIRA1a needed for our pre-clinical and clinical development activities. We are currently in discussions with other partners to have MIRA1a formulated into solid oral dosage forms for clinical trials.

Market Opportunity

MIRA1a, if approved, will compete in three key overlapping growth markets: the anxiety, cognitive decline (CNS/dementia), and chronic pain markets where multiple products with varying safety and efficacy profiles are already on the market. MIRA1a competes at the intersection of these three markets given the target patient profile for MIRA1a.

MIRA1a will compete primarily within the CNS market that encapsulates anxiety, dementia, other pain, Alzheimer's, migraines and related conditions. Based on the market size of the CNS opportunity as set forth in IQVIA's *Global Use of Medicines 2023* analysis (the "IQVIA Report"), we estimate that by 2027, the U.S. CNS market will be worth $48 billion, growing between two and five percent during the period from 2023 to 2027. Within that market opportunity, anxiety is worth between approximately $10 billion and $15 billion in annual sales.

Anxiety and pain are expected to grow approximately five percent over the same period according to the IQVIA Report, while Alzheimer's is expected to grow approximately twelve percent. This is critical given MIRA1a's focus on early-stage patients with dementia, as according to the Alzheimer's Association *2023 Alzheimer's Disease Facts and Figures* analysis (the "Alzheimer Association"), 0.5 million new Alzheimer cases emerge in the U.S. each year. According to the Alzheimer Association, about 60 to 80 percent of Alzheimer cases evolve into dementia. Thus, Alzheimer case directions are an important signal and gateway for MIRA1a-related opportunities in dementia. Based on that epidemiology, the US Center for Disease Control ("CDC") estimates that approximately 5.8 million Americans are living with Alzheimer's, with that number expected to grow to 14 million by 2060 ("CDC Alzheimer").

MIRA1a's other key market will be the traditional U.S. pain market, which the IQVIA Report estimates will be worth $42 billion in 2027 and grow between three and six percent during the forecast period. Note that this sizing is inclusive of chronic and acute pain, and MIRA1a is likely to only be used in the chronic segment of the market (approximately 40% to 50% of the market). Factors such as a rise in oncology related pain, diabetic neuropathy, and pain associated with aging (e.g. joint pain) are among the key drivers of patient and prescription growth. Opioid toxicity and related annual deaths suggest a novel non-opioid pain killer is needed. Given the overlap across indications and the fact that the target patient is presenting across these markets.

Our initial focus will be a dual path: potentially winning in traditional markets as well as the marijuana analog markets using a safe, effective and, if determined by the FDA, an FDA-approved treatment option since safety and efficacy determinations are in the exclusive purview of the FDA. Today, legal medical marijuana is a $13.2 billion industry whereas legal recreational marijuana is a $25.6 billion industry. Both are sub-sets of the traditional pain and anxiety markets. However, in many patient populations, non-US legal, and cultural settings, marijuana may not be the first or a viable option for treatment of neurological disorders. As a result, these patients will typically use non-steroidal anti-inflammatory drugs (NSAIDs) or various mood management drugs, opening them up to a range of non-ideal outcomes. The objective of MIRA1a is to offer physicians and patients an approved, viable synthetic option. Thus, if approved by the FDA, we believe that MIRA1a may potentially provide a preferred alternative in such patient populations, as it is not derived from the marijuana plant.

Our Market Advantage

MIRA1a is being developed as the first manufactured prescription drug to potentially target the CB1 and CB2 receptors for chronic pain and anxiety without the impurities of marijuana or its side effects, such as increased appetite and paranoia. MIRA1a has demonstrated the ability to rapidly and significantly improve cognitive performance with acute use—i.e. doubling cognitive performance after a single dose in normal mice (see figure on page 4 and 51). MIRA1a is a novel synthetic cannabinoid analog directed at potentially treating patients with dementia associated cognitive decline and anxiety diagnoses. Unlike other cannabinoids in the market, MIRA1a is not derived from plants. Plants generate alkaloids as a defense mechanism, and it has been speculated that plant-derived cannabinoids have adverse side effects in humans.

Furthermore, in animal studies conducted by us, MIRA1a has preliminarily demonstrated more than 30-fold increased CB2 activation compared to CBD.

Our Strategy

Our goal is to develop therapeutics targeting well-characterized CB1 and CB2 receptors with optimized pharmacological properties to transform the lives of patients with neurological diseases. Key elements of our strategy to achieve this goal include:

- ***Advance our MIRA1a through clinical development and approval.*** Our product candidate, MIRA1a, is in pre-clinical studies. Existing treatment options for neuropsychiatric disorders and neurological diseases have significant limitations, and, if approved, we believe MIRA1a would represent a major therapeutic advancement for patients.

- ***Continue pre-clinical development of MIRA1a across a range of CNS diseases associated with neurodegeneration and progress into clinical development.*** MIRA1a is currently in IND-enabling studies for neurobehavioral disorders such as dementia, Post-Traumatic Stress Disorder (PTSD), chronic pain, as well as neurodegenerative diseases such as Alzheimer's and Parkinson's Disease. We believe MIRA1a may have potential in several diseases associated with neuroinflammation, including multiple sclerosis.

- ***Identify additional product candidates and expand current candidates into additional neurological diseases.*** We see potential for our current product candidate to be evaluated in clinical trials outside of its initial indications and will evaluate additional indications to maximize the potential of our drug development program. Our current product focus is on targets that are well characterized in neurological diseases but for which there are limitations with currently available therapies. We also plan to continue to identify and develop additional novel product candidates that align with our focus.

- ***Explore strategic collaborations to maximize the value of our product candidates.*** We plan to explore collaborations opportunistically to maximize the value of our product candidates. We intend to retain significant economic and commercial rights to our programs in key geographic areas that are core to our long-term strategy.

Competition

We are subject to competition from pharmaceutical and biotechnology companies and academic and research institutions. We believe our future success will depend, in large part, on our ability to maintain a first mover advantage and competitive lead in our industry.

Competition arises mainly from two sources, traditional cell-based in vitro culture approaches and traditional in vivo animal models and testing. We also face future competition from companies developing cannabinoid therapies, as summarized in the table below:

FDA/EMCDA Approved Cannabinoid Therapies

Cannabis therapies currently authorized by regulators					
Brand Name	**Originator**	**Description**	**Indications**	**Form**	**Location of Approvals**
Sativex (nabiximols)	GW	Extract of cannabis: mix of delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD), 1:1 ratio	Multiple Sclerosis	Sublingual Spray	25 Countries in Europe, Latin America, North America and Australia. Not approved in the US
Marinol (dronabinol) Schedule 3	Unimed	Synthetic delta-9-THC	Loss of appetite, in people with AIDS and nausea and vomiting caused by chemotherapy	Capsules	US, Canada, Germany, Australia, and New Zealand
Syndros (dronabinol) Schedule 2	Insys	Synthetic delta-9-THC	Loss of appetite, in people with AIDS and nausea and vomiting caused by chemotherapy	Liquid	US
Cesamet (nabilone) Schedule 2	Lilly	Synthetic cannabinoid similar to THC	Nausea and vomiting caused by chemotherapy	Capsules	US, Canada, Europe, Australia
Epidolex Unscheduled	GW	Cannabidiol (CBD)	Dravet and Lennos-Gastaut syndrome (pediatric epilepsies)	Liquid	US

Source: European Monitoring Centre for Drugs and Addiction, FDA, drug labels, company reports

Sativex (delta-9-tetrahydrocannibinol and cannabidiol in the EU) is an oromucosal spray indicated as treatment for symptom improvement in adult patients with moderate to severe spasticity due to multiple sclerosis (MS) who have not responded adequately to other anti-spasticity medication and who demonstrate clinically significant improvement in spasticity related symptoms during an initial trial of therapy. Sativex is not assigned a schedule in the U.S. by the DEA as it is not approved but is a Class B controlled drug under the Misuse of Drugs Act 1971 and is placed in Schedule 4 to the Misuse of Drug Regulations 2001 in the United Kingdom.

Marinol (dronabinol) is an oral cannabinoid indicated in adults for the treatment of: Anorexia associated with weight loss in patients with AIDS and nausea and vomiting associated with cancer chemotherapy in patients who have failed to respond adequately to conventional antiemetic treatments. Marinol is a Schedule III controlled substance.

Cesamet (Nabilone) is a synthetic cannabinoid for oral administration that are indicated for the treatment of the nausea and vomiting associated with cancer chemotherapy in patients who have failed to respond adequately to conventional antiemetic treatments. Cesamet contains nabilone, which is a controlled in Schedule II of the Controlled Substances Act (CSA).

Intellectual Property

Our company owns U.S. Patent 10,787,675 B2, titled “Purified Synthetic Marijuana and Methods of Treatment by Administering Same,” which covers the MIRA1a compound *per se* as a racemic mixture, an isolated R-enantiomer, or an isolated S-enantiomer, as well as pharmaceutical formulations of the compound. This patent also covers MIRA1a in methods of treating Alzheimer’s disease, anxiety, depression, and addictions and expires on February 11, 2039.

Foreign patents covering MIRA1a, and its therapeutic uses have issued in Australia, Belgium, Canada, Czech Republic, France, Germany, Greece, Netherlands, Hungary, Ireland, Israel, Italy, Malta, Poland, Portugal, Romania, South Korea, Spain, Sweden, and the United Kingdom, and corresponding applications are pending in China and Japan. MyMD, currently owns these foreign patents and patent applications. We currently have no plans to develop the MIRA1a compound for approval and commercialization outside of the United States or for manufacture outside of the United States, including in the foreign jurisdictions in which MyMD has patent rights. We may in the future seek an agreement to license or purchase all or a portion of such foreign patent rights from MyMD, but we have no current plans to do so and there is no assurance that we would be able to successfully conclude such an agreement. MyMD’s foreign patent rights would not preclude us from pursuing the development, manufacture, approval, or commercialization of the MIRA1a compound in foreign jurisdictions in which MyMD does not have patent rights, such as India, if we chose in the future to pursue such activities. See “Risk Factors— Risks Related to Our Intellectual Property— We own the rights associated with our patents in the United States, but we do not own the rights to patents covering MIRA1a in foreign jurisdictions.”

Notwithstanding the foregoing, we have a worldwide perpetual, royalty free, non-exclusive license from MyMD to use MyMD’s Supera-CBD™, a different compound from MIRA1a, as a synthetic intermediate in the manufacture of MIRA1a for all purposes (including clinical development and commercial production). In consideration of this license, we agreed to share with MyMD technical information and know-how that pertains to the synthetic manufacture and/or formulation of our MIRA1a product candidate and granted a license to MyMD to use improvements to MIRA1a made under the agreement, and the agreement does not involve any prior or future cash payments by us. Except for this license, we do not license any patent rights or other intellectual property for MIRA1a from third parties. Although we believe that Supera-CBD is currently the best available synthetic intermediate for the manufacture of MIRA1a, we believe that other intermediates and/or processes could be used to manufacture MIRA1a.

Besides relying on patents, we also rely on trade secrets, proprietary know-how and continuing innovation to develop and maintain our competitive position, especially when we do not believe that patent protection is appropriate or can be obtained. We seek protection of these trade secrets, proprietary know-how and any continuing innovation, in part, through confidentiality and proprietary information agreements. However, these agreements may not provide meaningful protection for, or adequate remedies to protect, our technology in the event of unauthorized use or disclosure of information. Furthermore, our trade secrets may otherwise become known to, or be independently developed by, our competitors. We intend to seek appropriate patent protection for technology in our research and development programs, where applicable, and their uses by filing patent applications in the United States and other selected countries. We intend for these patent applications to cover, where possible, claims for compositions of matter, medical uses, processes for preparation and formulations.

Regulation

The U.S. Food and Drug Administration (FDA) and comparable regulatory authorities in state and local jurisdictions impose substantial and burdensome requirements upon companies involved in the clinical development, manufacture, marketing, and distribution of drugs. These agencies and other federal, state, and local entities regulate, among other things, the research and development, testing, manufacture, quality control, safety, effectiveness, labeling, storage, record keeping, approval, advertising and promotion, distribution, post-approval monitoring and reporting, sampling and export and import of our drug candidates.

U.S. Government Regulation

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant to a variety of administrative or judicial sanctions, such as the FDA's refusal to approve pending New Drug Applications (NDAs), withdrawal of an approval, imposition of a clinical hold, issuance of warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties.

The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- completion of pre-clinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice ("GLP") regulations;
- submission to the FDA of an Investigational New Drug ("IND") application, which must become effective before human clinical trials may begin;
- approval by an independent Institutional Review Board ("IRB"), at each clinical site before each trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practices ("GCP") requirements to establish the safety and efficacy of the proposed drug product for each indication;
- demonstration that the API and finished product are manufactured under cGMP conditions and meet all applicable standards of identity, strength, quality, and purity;
- submission to the FDA of an NDA;
- satisfactory completion of an FDA advisory committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with cGMP requirements and to assure that the facilities, methods, and controls are adequate to preserve the drug's identity, strength, quality, and purity;
- FDA review and approval of the NDA, including consideration of the views of any FDA advisory committee, prior to commercial marketing or sale of the drug in the United States; and
- compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy ("REMS") or to conduct a post-approval study.

Pre-clinical studies

Before testing any drug or biological product candidate in humans, the product candidate must undergo rigorous pre-clinical testing. The pre-clinical developmental stage generally involves laboratory evaluations of drug chemistry, formulation, and stability, as well as studies to evaluate toxicity in animals, to assess the potential for adverse events ("AEs") and, in some cases, to establish a rationale for therapeutic use. The conduct of pre-clinical studies is subject to federal regulations and requirements, including GLP regulations for safety/toxicology studies. An IND sponsor must submit the results of the pre-clinical studies, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND.

An IND is a request for authorization from the FDA to ship an investigation product and then administer it to humans and must be allowed to proceed by the FDA before human clinical trials may begin. Some long-term pre-clinical testing, such as animal tests of reproductive AEs and carcinogenicity, may continue after the IND is submitted. An IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA raises concerns or questions before that time related to one or more proposed clinical trials and places the trial on clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical trials

The clinical stage of development involves the administration of the investigational product to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by, or under control of, the trial sponsor, in accordance with GCPs, which include the requirement that all research patients provide their informed consent for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria and the parameters to be used to monitor subject safety and assess efficacy. Each protocol, and any subsequent amendments to the protocol, must be submitted to the FDA as part of the IND. Furthermore, each clinical trial must be reviewed and approved by an IRB for each institution at which the clinical trial will be conducted to ensure that the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the informed consent form that must be provided to each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed. There also are requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries. Information about most clinical trials must be submitted within specific timeframes for publication on the www.clinicaltrials.gov website. Information related to the product, patient population, phase of investigation, study sites and investigators and other aspects of the clinical trial is made public as part of the registration of the clinical trial. Sponsors are also obligated to disclose the results of their clinical trials after completion. Disclosure of the results of these trials can be delayed in some cases for up to two years after the date of completion of the trial. Competitors may use this publicly available information to gain knowledge regarding the progress of development programs.

Human clinical trials are typically conducted in three sequential phases, which may overlap or be combined:

- Phase I clinical trials generally involve a small number of healthy volunteers or disease-affected patients who are initially exposed to a single dose and then multiple doses of the product candidate. The primary purpose of these clinical trials is to assess the metabolism, pharmacologic action, side effect tolerability and safety of the drug.

- Phase II clinical trials involve studies in disease-affected patients to determine the dose required to produce the desired benefits. At the same time, safety and further pharmacokinetic and pharmacodynamic information is collected, possible adverse effects and safety risks are identified, and a preliminary evaluation of efficacy is conducted.

- Phase III clinical trials generally involve a larger number of patients at multiple sites and are designed to provide the data necessary to demonstrate the effectiveness of the product for its intended use, its safety in use and to establish the overall benefit/risk relationship of the product and provide an adequate basis for product approval. These trials may include comparisons with placebo and/or other comparator treatments. The duration of treatment is often extended to mimic the actual use of a product during marketing.

Post-approval trials, sometimes referred to as Phase IV clinical trials, may be conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow up. In certain instances, the FDA may mandate the performance of Phase IV clinical trials as a condition of approval of an NDA or a Biologics License Application ("BLA").

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if significant adverse events ("SAEs") occur. The FDA or the sponsor may suspend or terminate a clinical trial at any time, or the FDA may impose other sanctions on various grounds, including a finding that the research patients are being exposed to an unacceptable health risk. Similarly, an IRB can refuse, suspend, or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients.

Concurrently with clinical trials, companies usually complete additional pre-clinical studies and must also develop additional information about the physical characteristics of the drug or biological product as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the sponsor must develop methods for testing the identity, strength, quality, potency, and purity of the final biological product. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the biological product candidate does not undergo unacceptable deterioration over its shelf life.

Marketing Approval

Assuming successful completion of the required clinical testing, the results of the pre-clinical studies and clinical trials, together with detailed information relating to the product's chemistry, manufacture, controls, and proposed labeling, among other things, are submitted to the FDA as part of an NDA requesting approval to market the product for one or more indications. In most cases, the submission of an NDA is subject to a substantial application user fee.

The review process typically takes twelve months from the date the NDA is submitted to the FDA. The FDA conducts a preliminary review of all NDAs within the first 60 days after submission to determine whether they are sufficiently complete to permit substantive review before accepting them for "filing." The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information and may be subject to an additional application user fee. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA reviews an NDA to determine, among other things, whether the drug is safe and effective and whether the facility in which it is manufactured, processed, packaged, or held meets standards designed to assure the product's continued safety, quality and purity. Under the current guidelines in effect in the Prescription Drug User Fee Act (PDUFA), the FDA has a goal to review and act on the submission within ten months from the completion of the preliminary review of a standard NDA for a new molecular entity.

The FDA also may require submission of a REMS plan to ensure that the benefits of the drug outweigh its risks. The REMS plan could include medication guides, physician communication plans, assessment plans, and/or elements to assure safe use, such as restricted distribution methods, patient registries, or other risk minimization tools.

The FDA may refer an application for a novel drug to an advisory committee. An advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA may inspect one or more clinical trial sites to assure compliance with GCP requirements.

After evaluating the NDA and all related information, including the advisory committee recommendation, if any, and inspection reports regarding the manufacturing facilities and clinical trial sites, the FDA may issue an approval letter, or, in some cases, a complete response letter. A complete response letter generally contains a statement of specific conditions that must be met in order to secure final approval of the NDA and may require additional clinical trials or pre-clinical studies in order for FDA to reconsider the application. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. If and when those conditions have been met to the FDA's satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications.

Post-approval requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims are subject to prior FDA review and approval. There also are continuing annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

Properties

Our administrative and accounting office is located in Tampa, Florida. We currently lease approximately 2,279 square feet of office space under a lease that is due to expire on March 31, 2024. We share the office and costs in Tampa with two other companies. Our corporate headquarters and executive offices are in Baltimore, Maryland. Our Baltimore location, which comprises approximately 150 square feet, is under a lease that us due to expire on November 30, 2023. We believe that this facility will be sufficient for our current and planned operations, although we may require additional office and laboratory space in Baltimore for our planned operations as we progress our programs.

Employees

As of June 28 2023, we had one full-time employee and six part-time employees. As of such date, we were also utilizing the services of one employee of an affiliate of our founder on an outsourced basis, who renders services to us on a part-time basis. We anticipate that the outsourced employee of such affiliated company who currently works

for us on a part-time basis will become a part-time employee of our company upon the completion of this offering. None of our employees are represented by a labor union or are covered by a collective bargaining agreement. We consider our relationship with our employees to be satisfactory. In addition, we utilize the services of part-time outside consultants and contractors to perform several tasks for us.

Legal Proceedings

From time to time, we may be named in claims arising in the ordinary course of business. Currently, no legal proceedings, government actions, administrative actions, investigations, or claims are pending against us or involve us that, in the opinion of our management, could reasonably be expected to have a material adverse effect on our business and financial condition.

We anticipate that we will expend significant financial and managerial resources in the defense of our intellectual property rights in the future if we believe that our rights have been violated. We also anticipate that we will expend significant financial and managerial resources to defend against claims that our products and services infringe upon the intellectual property rights of third parties.

Corporation Information

Our corporate headquarters is located at 855 N Wolfe Street, Suite 601, Baltimore, Maryland 21205. Our telephone number is 737-289-0835.

Our principal website address is www.mirapharmaceuticals.com. The information contained on, or that can be accessed through, our website is deemed not to be incorporated in this prospectus or to be part of this prospectus. You should not consider information contained on our website to be part of this prospectus.

MANAGEMENT

Executive Officers and Directors

The following table sets forth information about our current executive officers and directors, including their ages as of June 28, 2023. With respect to our directors, each biography includes information regarding the experience, qualifications, attributes, or skills that caused our board of directors to determine that such person should serve as a director of our company.

Name	Age	Position
Erez Aminov	45	Chief Executive Officer and Director
Michelle Yanez	51	Chief Financial Officer, Secretary and Treasurer
Adam Kaplin, MD, PhD	56	President and Chief Scientific Officer
Chris Chapman, MD	70	Executive Chairman and Director
Christos Nicholoudis, Esq.	33	Director and General Counsel
Dave Vorhoff	67	Director
Brad Kroenig	44	Director
Talhia Tuck	45	Director
Hugh McColl III	63	Director

The following is a brief biography of each of our current executive officers and directors:

Executive Officers and Directors

Erez Aminov has served as a director and our Chief Executive Officer since April 2023. From April 2022 to March 2023, Mr. Aminov was a consultant to MIRA providing support on fundraising and investor relations matters. Mr. Aminov is an experienced biotechnology investor and adviser with over 18 years of experience. Since September 2021, Mr. Aminov was the founder of Locate Venture Corp, a strategy and investment consulting firm which has advised multiple, early-stage life sciences companies including MyMD Pharmaceuticals (Nasdaq: MYMD), Telomir Pharmaceuticals and Tyna Pharmaceuticals on fund raising and strategic partnerships. Mr. Aminov's work has generally focused on assisting clients with structuring private investment opportunities, designing new clinical partnerships, and negotiating access to new markets. From February 2015 to September 2020, Mr. Aminov served as the President of Finds4less Inc., a global distributor of electronics and gaming products. In this role, Mr. Aminov provided strategic oversight and direction for all aspects of the company's operations, while also spearheading new business development initiatives to capitalize on emerging market opportunities. Mr. Aminov received his B.A. in accounting in 2004 from Touro University in New York. We believe that Mr. Aminov is qualified to serve as one of our directors based on his finance and investment experience, particularly with early-stage life sciences companies.

Michelle Yanez has served as our Chief Financial Officer since April 2023, prior to which she served as our Corporate Controller since May 2022. Ms. Yanez is a senior financial executive with over 25 years of experience in public and privately held biotech, pharmaceutical, and life science companies. Ms. Yanez' experience includes a broad range of responsibilities in a highly complex and regulated market. She also brings deep corporate governance experience through her work with corporate boards, including audit and finance committees. Since May 2022, Ms. Yanez is part-time Corporate Controller at Telomir Pharmaceuticals, Inc., a privately held biotech company. From May 2002 until its acquisition in April 2022, Ms. Yanez held various positions, including the Director of Financial Reporting, of BioDelivery Sciences International, Inc. (Nasdaq:BDSI). In her role, she led financial offerings, managed due diligence for product acquisitions and financings and managed finance documents and filings for the tender offer, leading to the acquisition of BioDelivery Sciences in April 2022. Ms. Yanez has also served as a non-employee director of Inhibitor Therapeutics, Inc. (OTCQB: INTI), a publicly traded pharmaceutical development company focused on therapeutics for certain cancers and certain non-cancerous proliferation disorders, since December 2022. Ms. Yanez is a member of the Institute of Management Accountants and a member of the SEC Professionals Group. Ms. Yanez received her MBA degree *cum laude* from Rutgers Business School.

Adam Kaplin, MD, PhD has served as our President and Chief Scientific Officer since May 2022. Dr. Kaplin serves and will continue to serve in such capacity as a non-employee consultant to our company on an at-will and as-needed basis. Dr. Kaplin currently serves as the Chief Scientific Officer of MyMD Pharmaceuticals, Inc. (Nasdaq: MYMD), a publicly traded Delaware corporation focused on the development and commercialization of an immunometabolic regulator, and previously served as the Chief Scientific Officer of MyMD's predecessor company, MyMD Pharmaceuticals, Inc., a Florida corporation ("MyMD Florida"), since December 18, 2020. Since 2002, Dr. Kaplin has served in a number of positions at John Hopkins University, including Principal Neuro-Psychiatric Consultant to the Johns Hopkins Multiple Sclerosis Center of Excellence, Director of the Johns Hopkins Ketamine Clinic and the Departments of Psychiatry and Neurology at Johns Hopkins University School of Medicine, positions he has held at various times from 2002 to present. In addition, since 2019, Dr. Kaplin has served as Adjunct Faculty at the George Mason University Department of Global and Community Health. Dr. Kaplin has also served as Co-Founder of numerous healthcare related startups, including, from 2018 to present, REWARD Pathways Inc., a company devoted to addiction treatment development focused on a combined eHealth and medicine approach to curing addiction, and from 2016 to present, Hollinger Kaplin Benjamin & Bond, an eHealth software development company. Dr. Kaplin's research focuses on the investigation of the biological basis of immune mediated depression and cognitive impairment by using multiple sclerosis as the model. Dr. Kaplin has also been active for over a decade in the development and application of health information technology to mental health, combining this work with providing neuropsychiatric consultation and ongoing care of patients with multiple sclerosis spectrum disorders. Dr. Kaplin's original

research has been published over 40 times in several different publications, and he has authored or co-authored numerous review articles and textbooks. Dr. Kaplin received his B.S. in Biology from Yale University, graduating *cum laude* in 1988, and received his M.D. and Ph.D. degrees from the Johns Hopkins University School of Medicine in 1996. Because of his research and scholastic accomplishments, as well as his executive experience in the pharmaceutical industry, we believe Dr. Kaplin is qualified to serve as one of our directors.

Chris Chapman, MD was appointed to serve as our Executive Chairman in April 2023. As Executive Chairman, Dr. Chapman's duties include those that are customarily associated with the position of Chairman of the Board, as well as oversight of the regulatory affairs and drug development activities of the Company. Dr. Chapman has also served as one of our directors since November 1, 2021, and served as a consultant with respect to regulatory affairs and drug development from November 1, 2021 until he began serving as our Executive Chairman in April 2023. Dr. Chapman also serves as the President, Chief Medical Officer, and a director of MyMD. Dr. Chapman previously served as President and Chief Medical Officer of MyMD Florida effective as of November 1, 2020. Prior to joining MyMD Florida and since 1999, Dr. Chapman has also served as the Chief Executive Officer of Chapman Pharmaceutical Consulting, Inc., a consulting organization that provides support to pharmaceutical and biotechnology companies in North America, Europe, Japan, India and Africa on issues such as product safety, pharmacovigilance, medical devices, clinical trials and regulatory issues. In addition, from 2003-2004, Dr. Chapman served as the Associate Director of Drug Safety, Pharmacovigilance, and Clinical Operations for Organon Pharmaceuticals, where he was responsible for the supervision of four fellow M.D.s and 10 drug safety specialists. Prior to his time at Organon, Dr. Chapman served as Director, Medical Affairs, Drug Safety and Medical Writing Departments at Quintiles (currently known as IQVIA), from 1995 to 2003, where he grew the division from no employees to forty employees, including eight board certified physicians, four RNs, two pharmacists, eight medical writers and supporting staff. Dr. Chapman has also served on the board of directors of Rock Creek Pharmaceuticals, Inc. (formerly, Star Scientific, Inc.) from 2007 to 2016, including as a member of the Audit Committee from 2007 to 2014, chairperson of the Compensation Committee from 2007 to 2014, and chairperson of the Executive Search Committee from 2007 to 2014. Dr. Chapman is an experienced executive and global medical expert and has extensive experience in providing monitoring and oversight for ongoing clinical trials including both adult and pediatric subjects. Dr. Chapman is also the founder of the Chapman Pharmaceutical Health Foundation, an IRS Section 501(c)(3) nonprofit organization established to solicit public funds and to support healthcare needs such as AIDS, diabetes, hypertension, lupus, sickle cell anemia, malaria and tuberculosis, which was organized in 2006. Dr. Chapman earned an Executive Certificate in Nonprofit Financial Stewardship from the Harvard Kennedy School in 2020. Dr. Chapman received his M.D. degree from Georgetown University in Washington, D.C. in 1987, and completed his internship in Internal Medicine, a residency in Anesthesiology and a fellowship in Cardiovascular and Obstetric Anesthesiology at Georgetown. We believe Dr. Chapman is qualified to serve as one of our directors due to his executive experience in the pharmaceutical and biotechnology industries, as well as his medical expertise.

Christos Nicholoudis joined our company as a director in April 2023, and he was initially appointed under an agreement between our company and our largest stockholder, the Bay Shore Trust, to serve as the designated representative of the Bay Shore Trust on our board of directors. Mr. Nicholoudis was also named our General Counsel in April 2023, although he is not deemed to be an executive officer of our company. Mr. Nicholoudis is an attorney who has practiced with his own firm, The Law Firm of Christos Nicholoudis PLLC, since February, 2022, where he handles a wide range of legal matters including contract work, personal injury, real estate, wills trusts and estates and criminal law. Prior to that, from July of 2019 to February of 2022, Mr. Nicholoudis was employed by the State of Florida as a Public Defender for the 12th Judicial Circuit and from July 2012 to February of 2020, Mr. Nicholoudis owned and operated a restaurant franchise under Cortez Roadhouse, LLC. Mr. Nicholoudis is a 2012 graduate of Cornell University's School of Hotel Administration where he received a B.S. in hospitality and a 2017 graduate of Stetson College of Law where he received his J.D. degree. He is admitted to the bar in New York, Florida, Texas, and Washington D.C. We believe that Mr. Nicholoudis is qualified to serve as one of our directors based on his legal experience and training and his diverse business management experience.

David Vorhoff has served as one of our directors since May 3, 2022. Since August of 2021, Mr. Vorhoff has served as Chief Executive Officer and co-founder of Creo Valo, a financial services company, and a Partner of Texas Atlantic Group, a family office and advisory firm, since May of 2019. He is also the Co-founder and Chairman of the board of directors of Fintag Holdings, Inc., a financial technology company since April 2021. Previously, from August 2015 to March 2019, Mr. Vorhoff served as Senior Vice President of Corporate Development and Strategy for Premier, Inc. (Nasdaq: PINC), a healthcare improvement company, and as Managing Director, Co-Head Healthcare and Life Sciences at Deloitte, a professional services company, from 2013 to August 2015. He also previously served as a director of Start Scientific, Inc. Mr. Vorhoff has a B.A. in Interdisciplinary Studies from University of North Carolina at Chapel Hill, and an MBA degree from UNC Kenan-Flagler Business School. We believe Mr. Vorhoff is qualified to serve on our board of directors because of his experience in the healthcare and life sciences sectors, as well as his executive experience in the finance and investment banking industries.

Brad Kroenig has served as one of our directors since November 1, 2021. Since 2000, Mr. Kroenig's principal occupation has been serving as one of the world's leading fashion models. Mr. Kroenig was the face of Ralph Lauren, The Gap, Tommy Hilfiger, Chanel, Fendi, Peter Millar, and many other top brands. Models.com ranked him the #1 male model in the world from 2004 to 2006, and Vogue magazine ranked him the #3 male model of all time. Mr. Kroenig also serves as a business and strategy consultant for many private firms and early-stage companies, where as a part of his consulting business he advises companies regarding building management teams and managing relationships with investors. Mr. Kroenig is an experienced investor and business executive with significant experience in collaborating with executive-level and cross-functional teams, analyzing business situations, and developing and implementing practical investor strategies. Mr. Kroenig attended Florida International University on a NCAA Division I soccer scholarship. We believe that Mr. Kroenig's business experience in the modeling industry as a business executive qualifies him to serve as one of our directors.

Talhia Tuck has served as one of our directors since November 1, 2021. She currently is an Admissions and Recruitment Counselor at Georgetown Law School. From 2019-2023, Ms. Tuck was a Project Director with Georgetown Law School's Center for Innovations in Community Safety, formerly the Innovative Policing Program, which identifies new approaches to long-standing issues in policing. Ms. Tuck served as an Associate Director of Admissions at Georgetown University from 2016-2019, where she evaluated applications for the undergraduate schools and chaired several admissions committees. Prior to 2016, Ms. Tuck worked in the investment relations and communications field as Vice President for Communications and Investor Relations at Star Scientific, Inc. (OTC: STSC) where she was responsible for coordinating communications with shareholders, the financial community, and the media. She also has experience in the legal industry, as she participated in the Ropes & Gray New Alternatives Program as a Fellow at the Office of the State's Attorney for Montgomery County, Maryland, and subsequently worked in the Corporate Department at Ropes & Gray LLP in Washington, D.C. Prior to attending law school, Ms. Tuck was a journalist with MSNBC, NBC News, ABC News, and the CBS affiliate, WINK-TV, and worked as an admissions officer for Harvard College at Harvard University. She also served as a financial analyst at Goldman Sachs in the Investment Management Division from July 2000 until April 2001. We believe that Ms. Tuck's experience in public policy and investment relations qualifies her to serve as one of our directors. She received her A.B. degree from Harvard College, *cum laude*, and received her J.D. degree from Harvard Law School. We believe that Ms. Tuck's experience in public policy and investment relations qualifies her to serve as one of our directors.

Hugh McColl III has served as one of our directors since November 1, 2021. Mr. McColl has served as Co-Managing Member of Collwick Capital LLC, a fund of funds, since 2010 and Managing Member of McColl Brothers Lockwood LLC, a family investment office, since 2006. Since June 2015, he has served as a Senior Advisor at Brown Brothers Harriman Capital Partners where he assists in sourcing, investment evaluation, transaction execution, and providing post-investment, value-added oversight to portfolio companies. Before co-founding Collwick Capital LLC, Mr. McColl spent 14 years in the hedge fund industry, where he was a private investments portfolio manager for Round Table Investment Management and McColl Brothers Lockwood LLC, served as the Chief Operating Officer for M&M Partners LLC and was the Chief Executive Officer for McColl Partners LLC. Mr. McColl has served on the boards of directors of Heritage Brands Inc. since 2019 and Fintag Holdings Inc. since 2022. Mr. McColl received a B.S. degree in Business Administration from the University of North Carolina at Chapel Hill in 1982 and an MBA degree from the University of Virginia Darden School of Business in 1987. We believe that Mr. McColl's investment management and executive experience qualifies him to serve as a member of our board of directors. We believe that Mr. McColl's investment management and executive experience qualifies him to serve as a member of our board of directors.

Board Composition

Our business and affairs are managed under the direction of our board of directors, which currently consists of seven members. The number of directors is determined by our board of directors, subject to the terms of our amended and restated articles of incorporation and bylaws that will become effective upon the completion of this offering. Upon the completion of this offering, our board of directors will continue to consist of seven members, and our directors will be elected for one-year terms.

Family Relationships

There are no family relationships among any of our directors and executive officers. Erez Aminov, our Chief Executive Officer, is the fiancé of the daughter of our company's founder, Jonnie R. Williams, Sr.

Director Independence

Our board of directors has undertaken a review of the independence of each director. Based on information provided by each director concerning his or her background, employment, and affiliations, our board of directors has determined that Dave Vorhoff, Brad Kroenig, Talhia Tuck, and Hugh McColl III do not have any relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and are independent directors under the Nasdaq Listing Rules.

In making these determinations, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the transactions described in the section of this prospectus titled "Certain Relationships and Related Party Transactions."

Committees of the Board of Directors

Our board of directors will establish an audit committee, a compensation committee, and a nominating and corporate governance committee prior to the completion of this offering. The functions of these committees are described below. Members will serve on these committees until their resignation or until otherwise determined by our board of directors. Our board of directors may establish other committees as it deems necessary or appropriate from time to time.

Audit Committee

Our board of directors will establish an audit committee, and we anticipate that Dave Vorhoff, Brad Kroenig and Hugh McColl III will be the members of the committee, with Dave Vorhoff serving as the chair of the audit committee. Each member of the committee will meet the requirements for independence under the listing standards of Nasdaq and SEC rules and regulations, including Rule 10A-3(b)(1) under the Exchange Act. Each member of our audit committee will also meet the financial literacy requirements of the listing standards of Nasdaq. In addition, our board of directors has determined that Dave Vorhoff is an audit committee financial expert within the meaning of Item 407(d) of Regulation S-K under the Securities Act.

The audit committee's main purpose is to oversee our corporate accounting and financial reporting process. Our audit committee will be responsible for, among other things:

- selecting a qualified firm to serve as the independent registered public accounting firm to audit our financial statements;
- helping to ensure the independence and performance of the independent registered public accounting firm;
- discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent registered public accounting firm, our interim and year-end results of operations;
- developing procedures for employees to submit concerns anonymously about questionable accounting or audit matters;
- reviewing our policies on risk assessment and risk management;
- reviewing related party transactions;
- reviewing and pre-approving, as required, all audit and all permissible non-audit services to be performed by the independent registered public accounting firm; and
- assisting our board of directors in monitoring the performance of our internal audit function.

Our audit committee will operate under a written charter that satisfies the applicable rules and regulations of the SEC and the listing standards of Nasdaq, a copy of which will be available on our website at www.mirapharmaceuticals.com.

Compensation Committee

Our board of directors will establish a compensation committee and we anticipate that Talhia Tuck, Brad Kroenig, and Dave Vorhoff will be the members of this committee, with Talhia Tuck serving as the chair of the compensation committee. Each member of the committee will meet the requirements for independence under the listing standards of Nasdaq and SEC rules and regulations. Each member of our compensation committee will also be a non-employee director, as defined pursuant to Rule 16b-3 promulgated under the Exchange Act, or Rule 16b-3. In arriving at these determinations, our board of directors will examine all factors relevant to determining whether any compensation committee member has a relationship to us that is material to that member's ability to be independent from management in connection with carrying out such member's duties as a compensation committee member.

The compensation committee's main purpose is to review and recommend policies relating to compensation and benefits of our officers and employees. Our compensation committee will be responsible for, among other things:

- reviewing, approving, and determining, or making recommendations to our board of directors regarding, the compensation and compensation arrangements of our executive officers;
- administering our equity compensation plans;
- reviewing and approving, or making recommendations to our board of directors regarding, incentive compensation and equity compensation plans; and
- establishing and reviewing general policies relating to compensation and benefits of our employees.

Our compensation committee will operate under a written charter that satisfies the applicable rules and regulations of the SEC and the listing standards of Nasdaq, a

copy of which will be available on our website.

Nominating and Corporate Governance Committee

Our board of directors will establish a nominating and corporate governance committee, and we anticipate that Talhia Tuck, Brad Kroenig and Hugh McColl III will be the members of this committee, with Talhia Tuck serving as the chair of the nominating and corporate governance committee. Each member of the committee will meet the requirements for independence under the listing standards of Nasdaq and SEC rules and regulations.

Our nominating and corporate governance committee will be responsible for, among other things:

- identifying, evaluating, and selecting, or making recommendations to our board of directors regarding, nominees for election to our board of directors and its committees;
- developing and overseeing the annual evaluation of our board of directors and of its committees;
- considering and making recommendations to our board of directors regarding the composition of our board of directors and its committees;
- overseeing our corporate governance practices; and
- making recommendations to our board of directors regarding corporate governance guidelines.

Our nominating and corporate governance committee will operate under a written charter that satisfies the applicable listing standards of Nasdaq, a copy of which will be available on our website.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee is a current or former executive officer or employee of our company. None of our executive officers serves as a member of the compensation committee of any entity that has one or more executive officers serving on our compensation committee.

Risk Oversight

One of the key functions of our board of directors is informed oversight of our risk management process. Our board of directors administers this oversight function directly through our board of directors as a whole, and through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure, including risks associated with cybersecurity and data protection, and our audit committee has the responsibility to consider our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. Our audit committee will review legal, regulatory, and compliance matters that could have a significant impact on our financial statements. Our nominating and corporate governance committee will monitor the effectiveness of our corporate governance practices, including whether they are successful in preventing illegal or improper liability-creating conduct. Our compensation committee will assess and monitor whether any of our compensation policies and programs has the potential to encourage excessive risk taking. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, our entire board of directors will be regularly informed through committee reports about such risks.

Board Diversity

Our nominating and corporate governance committee will be responsible for reviewing with the board of directors, on an annual basis, the appropriate characteristics, skills, and experience required for the board of directors as a whole and its individual members. Although our board of directors does not have a formal written diversity policy with respect to the evaluation of director candidates, in its evaluation of director candidates, our nominating and corporate governance committee will consider factors including, without limitation, issues of character, integrity, judgment, potential conflicts of interest, other commitments, and diversity, and with respect to diversity, such factors as gender, race, ethnicity, experience, and area of expertise, as well as other individual qualities and attributes that contribute to the total diversity of viewpoints and experience represented on the board of directors.

The nominating and corporate governance committee will ensure compliance with the new rule by Nasdaq for board diversity (the "Nasdaq Diversity Rule"), on or before the date required under the Nasdaq Diversity Rule. The Nasdaq Diversity Rule requires, assuming our shares of common stock are listed on the Nasdaq Capital Market and that we are a smaller reporting company, that we will have at least two directors serving on our board of directors, at least one of which identifies as female and the second of which identifies as female, underrepresented minority or LGBTQ+, by December 31, 2026, unless our board of directors is comprised of five or less directors.

Code of Business Conduct and Ethics

Prior to the completion of this offering, our board of directors will adopt a code of business conduct and ethics applicable to all of our directors, officers (including our principal executive officer, principal financial officer, and principal accounting officer) and all global employees in accordance with applicable federal securities laws and corporate governance rules of the Nasdaq Capital Market. Our code of business conduct and ethics will be available on our website. Any amendments to the code of business conduct and ethics, or waivers of its requirements, will, if required, be disclosed on our website.

Corporate Governance Guidelines

Prior to the completion of this offering, our board of directors will adopt corporate governance guidelines, a copy of which will be available on our website.

Director Compensation

We did not provide any cash compensation to any of our directors during the year ended December 31, 2022 in their capacity as directors. However, on June 15, 2022, each of our non-employee directors was granted an option to purchase up to 20,000 shares of our common stock under our 2022 Omnibus Plan at an exercise price of $5.00 per share, and on April 28, 2023, each non-employee director was granted an additional option to purchase up to 10,000 shares of our common stock under the 2022 Omnibus Plan. Each such option was immediately vested in full upon grant and has a 10-year term.

Certain of our directors have received option grants as a result of their service to our company in a non-director capacity. Prior to his appointment as Executive Chairman, Dr. Chapman was a party to a consulting agreement with our company entered into in April 2022 and was granted additional options in his capacity as a consultant on June 15, 2022. Mr. Kroenig previously provided consulting services to our company in 2022 and received an additional option grant on June 15, 2022 under which he has the right to purchase up to 10,000 shares of our common stock. Upon his appointment as the company's General Counsel in April 2023, Mr. Nicholoudis was granted an option to

purchase 15,000 shares of our common stock.

EXECUTIVE COMPENSATION

This section discusses the material components of the executive compensation program for the following persons: (i) all persons serving as our principal executive officers during 2022 and (ii) the most highly compensated of our other executive officers who received compensation during 2022 of at least $100,000 and who were executive officers on December 31, 2022. We refer to these persons as our "named executive officers" elsewhere in this prospectus. Our "named executive officers" and their positions are as follows:

- Jude Uzonwanne, Former Chief Executive Officer and President;
- James A. McNulty, CPA, Former Chief Financial Officer; and
- Adam Kaplin, MD, PhD, President and Chief Scientific Officer.

In April 2023, Mr. Aminov succeeded Mr. Uzonwanne as our Chief Executive Officer and President, and Ms. Yanez succeeded Mr. McNulty as our Chief Financial Officer.

Summary Compensation Table

The following table shows the compensation paid by us during the 2022 and 2021 fiscal years to our named executive officers.

Name and principal position	Year	Salary	Bonus	Stock Awards	Option Awards (6)	All Other Compensation	Total ($)
Jude Uzonwanne, Former	2022	$ 125,000	50,000(1)		739,000	8,385(3)	$ 922,385
Chief Executive Officer and President	2021	$ -	-	-	-	-	$ -
James A. McNulty, CPA,	2022	$ 266,868	100,000(4)			-	$ 366,868
Former Chief Financial Officer	2021	$ 43,000	-	-	-	-	$ 43,000
Adam Kaplin, MD, PhD	2022	$ -	50,000(5)		739,000	-	$ 789,000
President and Chief Scientific Officer	2021	$ -	-	-	-	-	$ -

(1) The bonus represents a paid sign-on amount.
(2) Of these 2022 option grants, 75% were cancelled and non-exercisable as of April 2023, pursuant to the termination of Mr. Uzonwanne.
(2) Amount represents health insurance premiums paid.
(4) The bonus represents a milestone payment pursuant to a prior employment agreement with Mr. McNulty.
(5) The bonus represents a milestone payment pursuant to a prior employment agreement with Dr. Kaplin.
(6) The reported amounts represent the aggregate grant date fair value of the awards computed in accordance with Financial Accounting Standards Board Account Standards Codification Topic 718, Stock Compensation, as modified or supplemented, or FASB ASC Topic 718. The assumptions used in calculating the grant date fair value of the stock options reported in this column are set forth in Note 8 to our Consolidated Financial Statements for the year ended December 31, 2022 included in this Report. In April 2023, we entered into an agreement with Mr. Uzonwanne in which the number of shares subject to his option agreement was reduced from 200,000 to 40,000.

Executive Compensation Arrangements

Below is a more detailed summary of the elements of our current executive compensation program as it relates to our continuing named executive officers, as well as our current executive officers who were not executive officers as of the end of 2022, including our Executive Chairman.

Employment Agreements

Erez Aminov

Effective April 28, 2023, we entered into an employment agreement with Mr. Aminov pursuant to which Mr. Aminov will serve as our Chief Executive Officer. Under his employment agreement, Mr. Aminov has agreed to devote at least 50% of his business time to the affairs of the Company. Mr. Aminov's employment agreement provides that his employment will be on an at-will basis and can be terminated by either Mr. Aminov or our company at any time and for any reason. Under the agreement, Mr. Aminov will receive an initial base salary of $110,000 per year. In the event that Mr. Aminov's employment is terminated by our company without "Cause" or is terminated by Mr. Aminov for "Good Reason", Mr. Aminov will be entitled to severance compensation in the form of salary continuation for a period of three months (subject to Mr. Aminov executing and delivering a customary general release in favor of the company). "Cause" is defined in the agreement to include dishonesty, misappropriation, willful misconduct, breach of the agreement, and other customary matters. "Good Reason" is defined to include a material adverse change in Mr. Aminov's compensation or duties and level of responsibility. The employment agreement also contains customary confidentiality and invention-assignment covenants to which Mr. Aminov is subject.

Michelle Yanez

On April 28, 2023, we entered into an employment agreement with Ms. Yanez pursuant to which Ms. Yanez will serve as our Chief Financial Officer on a full-time basis. Ms. Yanez's employment agreement provides that her employment will be on an at-will basis and can be terminated by either Ms. Yanez or our company at any time and for any reason. Under the agreement, Ms. Yanez will receive an initial base salary of $165,000 per year. In the event that her employment is terminated by our company without "Cause" or is terminated by Ms. Yanez for "Good Reason", Ms. Yanez will be entitled to severance compensation in the form of salary continuation for a period of three months (subject to Ms. Yanez executing and delivering a customary general release in favor of the company). "Cause" is defined in the agreement to include dishonesty, misappropriation, willful misconduct, breach of the agreement, and other customary matters. "Good Reason" is defined to include a material adverse change in Ms. Yanez's compensation or duties and level of responsibility. The employment agreement also contains customary confidentiality and invention-assignment covenants to which Ms. Yanez is subject.

Chris Chapman

On April 28, 2023, we entered into an employment agreement with Dr. Chapman pursuant to which Dr. Chapman will serve as our Executive Chairman. Dr. Chapman's employment agreement provides that his employment will be on a part-time basis whereby Dr. Chapman will devote 50% of his full business time and effort to the business and affairs of the company, and it further provides that such employment will be on an at-will basis and can be terminated by either Dr. Chapman or our company at

any time and for any reason. Under the agreement, Dr. Chapman will receive an initial base salary of $150,000 per year. In the event that Dr. Chapman's employment is terminated by our company without "Cause" or is terminated by Dr. Chapman for "Good Reason", Dr. Chapman will be entitled to severance compensation in the form of salary continuation for a period of three months (subject to Dr. Chapman executing and delivering a customary general release in favor of the company). "Cause" is defined in the agreement to include dishonesty, misappropriation, willful misconduct, breach of the agreement, and other customary matters. "Good Reason" is defined to include a material adverse change in Dr. Chapman's compensation or duties and level of responsibility. The employment agreement also contains customary confidentiality and invention-assignment covenants to which Dr. Chapman is subject.

Consulting Relationship with Adam Kaplin

Dr. Kaplin is a paid non-employee consultant to our company under which he provides services and consultation on an as-needed basis. Dr. Kaplin is paid $9,166 a month for his services. We do not currently have a written consulting agreement with Dr. Kaplin.

Base Salaries

The base salaries of our employed executive officers are specified in their respective employment agreements, as summarized above.

Bonuses

We paid bonuses to three named executive officers in 2022. See Summary Compensation Table for details.

Equity Compensation

In June 2022, Dr. Kaplin was granted an option to purchase 200,000 shares of our common stock. In June 2022, prior to becoming our Chief Financial Officer, Ms. Yanez was granted an option to purchase 10,000 shares of our common stock. In June 2022, Dr. Chapman was granted an option to purchase 220,000 shares of our common stock.

In April 2023, we granted additional options to the following current executive officers for the following number shares of our common stock: Mr. Aminov, 150,000 shares; Ms. Yanez, 46,667 shares; Dr. Kaplin, 40,000 shares; and Dr. Chapman, 60,000 shares.

The foregoing options were granted under our 2022 Omnibus Plan and have an exercise price of $5.00 per share. These options vest as to one-third of the option shares on the date of option grant and will vest as to one-third of the option shares on the succeeding two anniversaries of the date of option grant. Any unvested portion of the option will vest in full upon a "change of control" of our company within the meaning of the 2022 Omnibus Plan. The options have a term of 10-years, subject to earlier termination upon termination of employment.

Retirement Plans

We do not currently maintain any retirement plans for our employees.

Outstanding Equity Awards at Fiscal Year-End

There were a cumulative 750,000 stock options granted and outstanding as of December 31, 2022. Of the aforementioned amount, 280,000 stock options were vested at December 31, 2022.

2022 Omnibus Incentive Plan

Our board of directors has adopted, and our stockholders have approved, our 2022 Omnibus Incentive Plan, or the 2022 Omnibus Plan. The 2022 Omnibus Plan authorizes the grant of incentive stock options, within the meaning of Section 422 of the Internal Revenue Code, to our employees and any of our parent and subsidiary corporations' employees, and the grant of nonstatutory stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares to our employees, directors, and consultants and any of our future subsidiary corporations' employees and consultants. The following is a summary of certain terms and conditions of the 2022 Omnibus Plan. This summary is qualified in its entirety by reference to the 2022 Omnibus Plan attached as an exhibit to the registration statement of which this prospectus forms a part. You are encouraged to read the full text of the 2022 Omnibus Plan.

As of June 28, 2023, there are options to purchase an aggregate of 980,001 shares of our common stock outstanding under the 2022 Omnibus Plan.

Administration

The 2022 Omnibus Plan is administered by our board of directors or our compensation committee, or any other committee or subcommittee or one or more of our officers to whom authority has been delegated (collectively, the "Administrator"). The Administrator has the authority to interpret the 2022 Omnibus Plan and award agreements entered into with respect to the 2022 Omnibus Plan; to make, change and rescind rules and regulations relating to the 2022 Omnibus Plan; to make changes to, or reconcile any inconsistency in, the 2022 Omnibus Plan or any award agreement covering an award; and to take any other actions needed to administer the 2022 Omnibus Plan.

Eligibility

The Administrator may designate any of the following as a participant under the 2022 Omnibus Plan: any officer or employee, or individuals engaged to become an officer or employee, of our company or our affiliates; and consultants of our company or our affiliates, and our directors, including our non-employee directors.

Types of Awards

The 2022 Omnibus Plan permits the Administrator to grant stock options, stock appreciation rights ("SARs"), performance shares, performance units, shares of common stock, restricted stock, restricted stock units ("RSUs"), cash incentive awards, dividend equivalent units, or any other type of award permitted under the 2022 Omnibus Plan. The Administrator may grant any type of award to any participant it selects, but only our employees or our subsidiaries' employees may receive grants of incentive stock options within the meaning of Section 422 of the Internal Revenue Code. Awards may be granted alone or in addition to, in tandem with, or (subject to the repricing prohibition described below) in substitution for any other award (or any other award granted under another plan of our company or any affiliate, including the plan of an acquired entity).

Shares Reserved Under the 2022 Omnibus Incentive Plan

The 2022 Omnibus Plan provides that 2,000,000 shares of our common stock are reserved for issuance under the 2022 Omnibus Plan, all of which may be issued

pursuant to the exercise of incentive stock options. The number of shares available for issuance under our 2022 Omnibus Plan will also include an annual increase on the first day of each fiscal year after the completion of this offering equal to the lesser of:

- 200,000 shares;
- 1.0% of the outstanding shares of all class of our common stock as of the last day of the immediately preceding fiscal year; or
- such other amount as our board of directors may determine.

The number of shares reserved for issuance under the 2022 Omnibus Plan will be reduced on the date of the grant of any award by the maximum number of shares, if any, with respect to which such award is granted. However, an award that may be settled solely in cash will not deplete the 2022 Omnibus Plan's share reserve at the time the award is granted. If (a) an award expires, is canceled, or terminates without issuance of shares or is settled in cash, (b) the Administrator determines that the shares granted under an award will not be issuable because the conditions for issuance will not be satisfied, (c) shares are forfeited under an award, (d) shares are issued under any award and we reacquire them pursuant to our reserved rights upon the issuance of the shares, (e) shares are tendered or withheld in payment of the exercise price of an option or as a result of the net settlement of outstanding stock appreciation rights or (f) shares are tendered or withheld to satisfy federal, state or local tax withholding obligations, then those shares are added back to the reserve and may again be used for new awards under the 2022 Omnibus Plan. However, shares added back to the reserve pursuant to clauses (d), (e) or (f) in the preceding sentence may not be issued pursuant to incentive stock options.

Options

The Administrator may grant stock options and determine all terms and conditions of each stock option, which include the number of stock options granted, whether a stock option is to be an incentive stock option or non-qualified stock option, and the grant date for the stock option. However, the exercise price per share of common stock may never be less than the fair market value of a share of common stock on the date of grant and the expiration date may not be later than 10 years after the date of grant. Stock options will be exercisable and vest at such times and be subject to such restrictions and conditions as are determined by the Administrator, including with respect to the manner of payment of the exercise price of such stock options.

Stock Appreciation Rights

The Administrator may grant SARs, which represent the right of a participant to receive cash in an amount, or common stock with a fair market value, equal to the appreciation of the fair market value of a share of common stock during a specified period of time. The 2022 Omnibus Plan provides that the Administrator will determine all terms and conditions of each SAR, including, among other things: (a) whether the SAR is granted independently of a stock option or relates to a stock option, (b) the grant price, which may never be less than the fair market value of our common stock as determined on the date of grant, (c) a term that must be no later than 10 years after the date of grant, and (d) whether the SAR will settle in cash, common stock or a combination of the two.

Performance and Stock Awards

The Administrator may grant awards of shares of common stock, restricted stock, RSUs, performance shares or performance units. Restricted stock means shares of common stock that are subject to a risk of forfeiture or restrictions on transfer, which may lapse upon the achievement or partial achievement of performance goals (as described below) or upon the completion of a period of service. An RSU grants the participant the right to receive cash or shares of common stock the value of which is equal to the fair market value of one share of common stock, to the extent performance goals are achieved or upon the completion of a period of service. Performance shares give the participant the right to receive shares of common stock to the extent performance goals are achieved. Performance units give the participant the right to receive cash or shares of common stock valued in relation to a unit that has a designated dollar value or the value of which is equal to the fair market value of one or more shares of common stock, to the extent performance goals are achieved.

The Administrator will determine all terms and conditions of the awards including (a) whether performance goals must be achieved for the participant to realize any portion of the benefit provided under the award, (b) the length of the vesting or performance period and, if different, the date that payment of the benefit will be made, (c) with respect to performance units, whether to measure the value of each unit in relation to a designated dollar value or the fair market value of one or more shares of common stock, and (d) with respect to performance shares, performance units, and RSUs, whether the awards will settle in cash, in shares of common stock (including restricted stock), or in a combination of the two.

Cash Incentive Awards

The Administrator may grant cash incentive awards. An incentive award is the right to receive a cash payment to the extent one or more performance goals are achieved. The Administrator will determine all terms and conditions of a cash incentive award, including, but not limited to, the performance goals (described below), the performance period, the potential amount payable, and the timing of payment. While the 2022 Omnibus Plan permits cash incentive awards to be granted under the 2022 Omnibus Plan, we may also make cash incentive awards outside of the 2022 Omnibus Plan.

Performance Goals

For purposes of the 2022 Omnibus Plan, the Administrator may establish objective or subjective performance goals which may apply to any performance award. Such performance goals may include, but are not limited to, one or more of the following measures with respect to our company or any one or more of our subsidiaries, affiliates, or other business units: net sales; cost of sales; gross income; gross revenue; revenue; operating income; earnings before taxes; earnings before interest and taxes; earnings before interest, taxes, depreciation and amortization; earnings before interest, taxes, depreciation, amortization and exception items; income from continuing operations; net income; earnings per share; diluted earnings per share; total stockholder return; fair market value of a share of common stock; cash flow; net cash provided by operating activities; net cash provided by operating activities less net cash used in investing activities; ratio of debt to debt plus equity; return on stockholder equity; return on invested capital; return on average total capital employed; return on net capital employed; return on assets; return on net assets employed before interest and taxes; operating working capital; average accounts receivable (calculated by taking the average of accounts receivable at the end of each month); average inventories (calculated by taking the average of inventories at the end of each month); economic value added; succession planning; manufacturing return on assets; manufacturing margin; and customer satisfaction. Performance goals may also relate to a participant's individual performance. The Administrator reserves the right to adjust any performance goals or modify the manner of measuring or evaluating a performance goal.

Dividend Equivalent Units

The Administrator may grant dividend equivalent units. A dividend equivalent unit gives the participant the right to receive a payment, in cash or shares of common stock, equal to the cash dividends or other distributions that we pay with respect to a share of common stock. We determine all terms and conditions of a dividend equivalent unit award, except that dividend equivalent units may not be granted in connection with a stock option or SAR, and dividend equivalent unit awards granted in connection with another award cannot provide for payment until the date such award vests or is earned, as applicable.

Other Stock-Based Awards

The Administrator may grant to any participant shares of unrestricted stock as a replacement for other compensation to which such participant is entitled, such as in payment of director fees, in lieu of cash compensation, in exchange for cancellation of a compensation right or as a bonus.

Transferability

Awards are not transferable, including to any financial institution, other than by will or the laws of descent and distribution, unless the Administrator allows a participant to (a) designate in writing a beneficiary to exercise the award or receive payment under the award after the participant's death, (b) transfer an award to a former spouse as required by a domestic relations order incident to a divorce, or (c) transfer an award without receiving any consideration.

Adjustments

If (a) we are involved in a merger or other transaction in which our shares of common stock are changed or exchanged; (b) we subdivide or combine shares of common stock or declare a dividend payable in shares of common stock, other securities, or other property (other than stock purchase rights issued pursuant to a stockholder rights agreement); (c) we effect a cash dividend that exceeds 10% of the fair market value of a share of common stock or any other dividend or distribution in the form of cash or a repurchase of shares of common stock that our board of directors determines is special or extraordinary, or that is in connection with a recapitalization or reorganization; or (d) any other event occurs that in the Administrator's judgment requires an adjustment to prevent dilution or enlargement of the benefits intended to be made available under the 2022 Omnibus Plan, then the Administrator will, in a manner it deems equitable, adjust any or all of (1) the number and type of shares subject to the 2022 Omnibus Plan and which may, after the event, be made the subject of awards; (2) the number and type of shares of common stock subject to outstanding awards; (3) the grant, purchase, or exercise price with respect to any award; and (4) the performance goals of an award. In any such case, the Administrator may also provide for a cash payment to the holder of an outstanding award in exchange for the cancellation of all or a portion of the award, subject to the terms of the 2022 Omnibus Plan.

The Administrator may, in connection with any merger, consolidation, acquisition of property or stock, or reorganization, authorize the issuance or assumption of awards upon terms and conditions we deem appropriate without affecting the number of shares of common stock otherwise reserved or available under the 2022 Omnibus Plan.

Change of Control

Upon a change of control (as defined in the 2022 Omnibus Plan), the successor or surviving corporation may agree to assume some or all outstanding awards or replace them with the same type of award with similar terms and conditions, without the consent of any participant, subject to the following requirements:

- Each award that is assumed must be appropriately adjusted, immediately after such change of control, to apply to the number and class of securities that would have been issuable to a participant upon the consummation of such change of control had the award been exercised, vested, or earned immediately prior to such change of control, and other appropriate adjustment to the terms and conditions of the award may be made.

- If the securities to which the awards relate after the change of control are not listed and traded on a national securities exchange, then (a) each participant must be provided the option to elect to receive, in lieu of the issuance of such securities, cash in an amount equal to the fair value of the securities that would have otherwise been issued, and (b) no reduction may be taken to reflect a discount for lack of marketability, minority, or any similar consideration, for purposes of determining the fair value of such securities.

- If a participant is terminated from employment without cause, or due to death or disability, or the participant resigns employment for good reason (as defined in any award or other agreement between the participant and our company or an affiliate) within two years following the change of control, then upon such termination, all of the participant's awards in effect on the date of such termination will vest in full or be deemed earned in full.

If the purchaser, successor, or surviving entity does not assume the awards or issue replacement awards, then immediately prior to the change of control date, unless the Administrator otherwise determines:

- Each stock option or SAR then held by a participant will become immediately and fully vested, and all stock options and SARs will be cancelled on the change of control date in exchange for a cash payment equal to the excess of the change of control price of the shares of common stock over the purchase or grant price of such shares under the award.

- Unvested restricted stock and RSUs (that are not performance awards) will vest in full.

- All performance shares, performance units and cash incentive awards for which the performance period has expired will be paid based on actual performance, and all such awards for which the performance period has not expired will be cancelled in exchange for a cash payment equal to the amount that would have been due under such awards, valued assuming achievement of target performance goals at the time of the change of control, prorated based on the number of full months elapsed in the performance period.

- All unvested dividend equivalent units will vest (to the same extent as the award granted in tandem with such units) and be paid.

- All other unvested awards will vest and any amounts payable will be paid in cash.

Term of Plan

Unless earlier terminated by our board of directors, the 2022 Omnibus Plan will terminate on, and no further awards may be granted, after the tenth (10^{th}) anniversary of its effective date.

Termination and Amendment of Plan

Our board of directors or the Administrator may amend, alter, suspend, discontinue, or terminate the 2022 Omnibus Plan at any time, subject to the following limitations:

- Our board of directors must approve any amendment to the 2022 Omnibus Plan if we determine such approval is required by prior action of our board of directors, applicable corporate law, or any other applicable law;

- Stockholders must approve any amendment to the 2022 Omnibus Plan, which may include an amendment to materially increase the number of shares reserved under the 2022 Omnibus Plan, if we determine that such approval is required by Section 16 of the Exchange Act, the Code, the listing requirements of any principal securities exchange or market on which the shares are then traded, or any other applicable law; and

- Stockholders must approve any amendment to the 2022 Omnibus Plan that would diminish the protections afforded by the participant award limits or repricing and backdating prohibitions.

Amendment, Modification, Cancellation and Disgorgement of Awards

Subject to the requirements of the 2022 Omnibus Plan, the Administrator may modify or amend any award or waive any restrictions or conditions applicable to any award or the exercise of the award, or amend, modify, or cancel any terms and conditions applicable to any award, in each case, by mutual agreement of the Administrator and the participant or any other person that may have an interest in the award, so long as any such action does not increase the number of shares of common stock issuable under the 2022 Omnibus Plan.

We do not need to obtain participant (or other interested party) consent for any such action (a) that is permitted pursuant to the adjustment provisions of the 2022 Omnibus Plan; (b) to the extent we deem the action necessary to comply with any applicable law or the listing requirements of any principal securities exchange or market on which our common stock is then traded; (c) to the extent we deem the action is necessary to preserve favorable accounting or tax treatment of any award for us; or (d) to the extent we determine that such action does not materially and adversely affect the value of an award or that such action is in the best interest of the affected participant or any other person as may then have an interest in the award.

The Administrator can cause a participant to forfeit any award, and require the participant to disgorge any gains attributable to the award, if the participant engages in any action constituting, as determined by the Administrator in its discretion, cause for termination, or a breach of a material company policy, any award agreement or any other agreement between the participant and us or one of our affiliates concerning noncompetition, nonsolicitation, confidentiality, trade secrets, intellectual property, nondisparagement or similar obligations.

Any awards granted under the 2022 Omnibus Plan, and any shares of common stock issued or cash paid under an award, will be subject to any recoupment or clawback policy that we adopt, or any recoupment or similar requirement otherwise made applicable by law, regulation or listing standards to us.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a description of transactions within the last three years to which we have been a party, in which the amount involved exceeded or will exceed $120,000, and in which any of our executive officers, directors or holders of more than 5% of our voting securities, or an immediate family member thereof, had or will have a direct or indirect material interest. We believe the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or amounts that would be paid or received, as applicable, in arm's-length transactions with unrelated third parties.

Confirmatory Patent Assignment and Royalty Agreement

On November 1, 2021, we entered into a Confirmatory Patent Assignment and Royalty Agreement with SRQ Patent Holdings II, LLC ("Patent Assignor"), and the founder of our company, Jonnie R. Williams, Sr., pursuant to which we granted a royalty of 8% of any net sales, royalties, or other revenue received by us with respect to the sale, commercialization, or disposition of MIRA1a, with such royalty being paid to Patent Assignor in consideration for Patent Assignor's assignment to us of U.S. Patent 10,787,675 B2, which is the patent for MIRA1a.

Line of Credit and Promissory Note with the Bay Shore Trust

On April 28, 2023, we entered into a Promissory Note and Loan Agreement with the Bay Shore Trust, a trust established by our founder, Jonnie R. Williams, Sr., and under which various of his family members are beneficiaries. Under this Promissory Note and Loan Agreement (the "Bay Shore Note"), we have the right to borrow up to an aggregate of $5,000,000 from the Bay Shore Trust at any time up to the second anniversary of the issuance of the Bay Shore Note or, if earlier, upon the completion of our initial public offering. Our right to borrow funds under the Bay Shore Note is subject to the absence of a material adverse change in our assets, operations, or prospects. The Bay Share Note, together with accrued interest, will become due and payable on the second anniversary of the issuance of the note, provided that it may be prepaid at any time without penalty. The Bay Shore Note will accrue interest at a rate equal 7% per annum, simple interest, during the first year that the note is outstanding and 10% per annum, simple interest, thereafter. The Bay Shore Note is unsecured. As of June 1, 2023, we have borrowed an aggregate of $0.2 million under the Bay Shore Note.

In consideration of the loan facility provided by the Bay Shore Trust, we issued to the Bay Shore Trust a common stock purchase warrant on April 28, 2023 giving the Bay Shore Trust the right to purchase up to 1,000,000 shares of common stock at an exercise price of $5.00 per share, which warrant will expire five years after the date of grant. Pursuant to a registration rights agreement, we have granted to Bay Shore Trust the right to require us, at any time after one year following our initial public offering, to register for resale the shares issuable upon the exercise of the warrant, with such registration rights being in the form of demand and "piggyback" registration rights that are subject to customary limitations and restrictions. Upon issuance, the warrant met the criteria to be classified as equity based on an analysis under Accounting Standards Codification (480) ASC 480, "*Distinguishing Liabilities from Equity*" and will be measured at fair value, resulting in an initial fair value of approximately $3.5 million upon issuance of the warrant using Black-Scholes valuation techniques.

Amended and Restated Limited License Agreement with MyMD Pharmaceuticals

On June 27, 2022, we entered into an Amended and Restated Limited License Agreement with MyMD, having an effective date of April 26, 2022. The license, as amended on April 20, 2023, grants our company a perpetual, worldwide, royalty-free non-exclusive right to use MyMD's Supera-CBD compound, a different compound than MIRA1a, as a synthetic intermediate in the manufacture of MIRA1a for all purposes (including clinical development and commercial production). This license is perpetual, and MyMD does not have a right to terminate it. In consideration of this license, we agreed to share with MyMD technical information and know-how that pertains to the synthetic manufacture and/or formulation of our MIRA1a product candidate and granted a license to MyMD to use improvements to MIRA1a made under the agreement, agreement, and the agreement does not involve any prior or future cash payments by us. Although we believe that Supera-CBD is currently the best available synthetic intermediate for the manufacture of MIRA1a, we believe that other intermediates and/or processes could be used to manufacture MIRA1a.

Consulting and Employment Agreements with Dr. Chapman

On April 1, 2022, we entered into a Consulting Agreement with Dr. Chapman pursuant to which he provided regulatory and drug development consulting services to the Company on an as-requested basis. Pursuant to the Consulting Agreement, he was to be paid a one-time fee of $100,000 upon the completion of this offering (of which $50,000 was prepaid in in the first quarter of 2022) plus a monthly fee of $20,000 thereafter. The monthly fee was to begin upon the completion of this offering. He was also reimbursed for reasonable out-of-pocket expenses incurred in connection with his duties under the Consulting Agreement. The agreement had a term of one year with an automatic one-year extension, provided that either party could terminate the agreement without cause upon 30-days prior written notice.

In his capacity as a consultant, Dr. Chapman was also granted on June 15, 2022, an option to purchase up to 200,000 shares of our common stock at an exercise price of $5.00 per share. Upon Dr. Chapman becoming Executive Chairman, he has received or will receive additional compensation in that capacity, and his employment agreement will at such time replace his Consulting Agreement. See "Executive Compensation" above.

Consulting Relationship with Mr. Kroenig

In his capacity as a consultant, Mr. Kroenig was also granted on June 15, 2022, an option to purchase up to 10,000 shares of our common stock at an exercise price of $5.00 per share. This option was granted under our 2022 Omnibus Plan and vested as to 25% of the option shares on the date of grant, with the balance vesting in one-third increments on each of the three successive anniversaries of the grant date. The option has a term of 10 years, subject to earlier termination upon certain terminations of Kroenig's position as a consultant to the Company and may be accelerated upon a change in control.

Prior Consulting Agreement with Dr. Kaplin

Prior to Dr. Kaplin becoming our President and Chief Scientific Officer in May 2022, Dr. Kaplin was a party to a consulting agreement with our company pursuant to which Dr. Kaplin was paid $100,000 in 2021. This agreement was terminated in May 2022.

Review and Approval of Related Party Transactions

Prior to the completion of this offering, our board of directors will adopt a written policy regarding the review and approval of related party transactions. Our audit committee charter provides that the audit committee shall review and approve or disapprove any related party transactions, which are transactions between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed $120,000 and in which a related person has or will have a direct or indirect material interest. Upon the completion of this offering, our policy regarding transactions between us and related persons will provide that a related person is defined as a director, executive officer, nominee for director or greater than 5% beneficial owner of our common stock, in each case since the beginning of the most recently completed year, and any of their immediate family members.

Certain of the foregoing disclosures are summaries of certain provisions of our related party agreements and are qualified in their entirety by reference to all of the provisions of such agreements. Because these descriptions are only summaries of the applicable agreements, they do not necessarily contain all of the information that you may find useful. Copies of certain of the agreements have been filed as exhibits to the registration statement of which this prospectus is a part and are available electronically on the website of the SEC at *www.sec.gov*.

PRINCIPAL SHAREHOLDERS

The following table sets forth information as of June 28, 2023 (the "Beneficial Ownership Date") with respect to the beneficial ownership of our common stock (i) immediately prior to this offering and (ii) as adjusted to reflect the sale of [●] shares of our common stock in this offering, in each case by:

- each of our named executive officers;
- each of our directors;
- all of our current directors and executive officers as a group; and
- each person known by us to be the beneficial owner of more than 5% of the outstanding shares of our common stock.

We have determined beneficial ownership in accordance with the rules of the SEC, and thus it represents sole or shared voting or investment power with respect to our securities. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of common stock subject to options or warrants held by that person that are currently exercisable or exercisable within 60 days of the Beneficial Ownership Date are deemed outstanding but are not deemed outstanding for computing the percentage ownership of any other person. Unless otherwise indicated below, to our knowledge, the persons and entities named in the table have sole voting and sole investment power with respect to all shares that they beneficially owned, subject to community property laws where applicable. The information does not necessarily indicate beneficial ownership for any other purpose, including for purposes of Sections 13(d) and 13(g) of the Securities Act.

In the table below, the applicable percentage ownership relating to shares beneficially owned prior to this offering is based on shares of our common stock outstanding as of the Beneficial Ownership Date. The applicable percentage ownership relating to shares beneficially owned after this offering is based on 13,313,000 shares of our common stock outstanding (after giving effect to our 1-for-5 reverse stock split that occurred on June 28, 2023) and assumes that the underwriters do not exercise their option to purchase additional shares of common stock from us. Unless otherwise indicated in the footnotes to the table below, the address of each beneficial owner listed in the table below is 900 West Platt Street Suite 200, Tampa, Florida 33606.

	Shares of Common Stock Beneficially Owned			
	Shares of Common Stock Beneficially Owned Before this Offering		Shares of Common Stock Beneficially Owned After this Offering	
Name of beneficial owner	Number of Shares	Percentage	Number of Shares	Percentage
Directors and Executive Officers				
Erez Aminov	663,500	4.97%		
Michelle Yanez	22,223	*		
Adam Kaplin, MD, PhD	313,334	2.33%		
Chris Chapman, MD	340,000	2.53%		
Christos Nicholoudis, Esq.	5,000	*		
Dave Vorhoff	70,000	*		
Brad Koenig	86,667	*		
Talhia Tuck	50,000	*		
Hugh McColl III	70,000	*		
All current directors and officers as a group (1)	**1,620,724**	**12.10%**		
5% Stockholders				
George Cappy.(2)	3,603,100	27.06%		
Brian McNulty (3)	670,000	5.03%		
William J. Nellis(4)	680,000	5.11%		
Samuel S. Duffey (5)	670,000	5.03%		

*Represents beneficial ownership of less than 1%

(1) Includes shares subject to options granted under our 2022 Omnibus Plan that are exercisable within 60 days of the Beneficial Ownership Date held as follows: Mr. Aminov, 50,000 shares; Ms. Yanez, 22,223 shares; Dr. Kaplin, 113,334 shares; Dr. Chapman, 140,000 shares; Mr. Nicholoudis, 5,000 shares; Mr. Vorhoff, 30,000 shares; Mr. Kroenig, 36,667 shares; Ms. Tuck, 30,000 shares; Mr. McColl, 30,000 shares; and all current officers and directors as a group, 457,224 shares. Excludes shares subject to options granted under our 2022 Omnibus Plan that are not exercisable within 60 days of the Beneficial Ownership Date.

(2) Consists of (i) 20,000 shares held directly by Mr. Cappy, and (ii) 2,583,100 shares held by the Bay Shore Trust, and (iii) 1,000,000 shares issuable pursuant to a warrant held by the Bay Shore Trust that is immediately exercisable. As trustee of the Bay Shore Trust, Mr. Cappy has sole voting and dispositive power over the shares held by the trust, and, as a result is deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by the trust.

(3) Consists of (i) 10,000 shares held directly by Mr. McNulty and (iii) 660,000 shares held by the Celeste J. Williams Lifetime QTIP Trust. As trustee of the Celeste J. Williams Lifetime QTIP Trust, Mr. McNulty has sole voting and dispositive power over the shares held by the trust, and, as a result is deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by the trust.

(4) Consists of (i) 20,000 shares held directly by Mr. Nellis and (ii) 660,000 shares held by the Jonnie Ray Williams, Jr. 2020 Irrevocable Trust. As trustee of the Jonnie Ray Williams, Jr. 2020 Irrevocable Trust, Mr. Nellis has sole voting and dispositive power over the shares held by the trust, and, as a result is deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by the trust.

(5) Consists of (i) 10,000 shares held directly by Mr. Duffey and (ii) 660,000 shares held by the Rachel Jean Williams 2020 Irrevocable Trust. As trustee of the Rachel Jean Williams 2020 Irrevocable Trust, Mr. Duffey has sole voting and dispositive power over the shares held by the trust, and, as a result is deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by the trust.

DESCRIPTION OF CAPITAL STOCK

The following description of the material terms of our amended and restated articles of incorporation and our amended and restated bylaws is a summary, does not purport to be complete and is qualified in its entirety by reference to our second amended and restated articles of incorporation and amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus is a part and are incorporated by reference into this prospectus.

After giving effect to the filing of our Third Amended and Restated Articles of Incorporation and the 1-for-5 reverse stock split that we completed on June 28, 2023, the total number of shares of common stock our company is authorized to issue is presently 100,000,000, $0.0001 par value per share. The total number of shares of preferred stock our company is authorized to issue is 10,000,000, $0.0001 par value per share.

Corporate Governance

We are a corporation organized under the laws of the state of Florida and are governed by the Florida Business Corporation Act, which we sometimes refer to as the FBCA, our amended and restated articles of incorporation and our amended and restated bylaws.

Common Stock

Holders of shares of our common stock are entitled to one vote for each share held on all matters submitted to a vote of shareholders. Accordingly, holders of a majority of the shares of our common stock entitled to vote in any election of directors may elect all of the directors standing for election. Holders of shares of our common stock are entitled to receive proportionately any dividends if and when such dividends are declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock. Upon the liquidation, dissolution or winding up of the company, the holders of our common stock are entitled to receive ratably net assets available after the payment of all debts and other liabilities and subject to the prior rights of holders of any outstanding preferred stock. The rights, preferences, and privileges of holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Under the terms of our amended and restated articles of incorporation, which we sometimes refer to as the articles, the board of directors is authorized to designate and issue up to 10,000,000 shares of preferred stock in one or more series without shareholder approval. Our board of directors will have discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of holders of our common stock until the board of directors determines the specific rights of the holders of the preferred stock. However, these effects might include:

- restricting dividends on the common stock;
- diluting the voting power of the common stock;
- impairing the liquidation rights of the common stock; and
- delaying or preventing a change in control of the company.

Upon completion of this offering, there will be no shares of preferred stock outstanding and, at present, we have no plans to issue any shares of preferred stock.

Dividends and Other Distributions

The holders of our common stock will be entitled to receive proportionately any cash or stock dividends if and when such dividends are declared by the board of directors, subject to any preferential dividend rights of outstanding preferred stock. In the event of the dissolution or liquidation of the company, after the full preferential rights, if any, on any outstanding preferred stock has been paid to or set aside for the holders of such preferred stock, the holders of our common stock will be entitled to receive proportionately all of our remaining assets.

The declaration and payment of any dividend will be subject to the discretion of our board of directors, subject to applicable laws. The time and amount of any

dividend will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, general business conditions, and any other factors that our board of directors may deem relevant.

We currently intend to retain all available funds and any future earnings for general corporate purposes, including working capital, operating expenses, and capital expenditures, and do not anticipate declaring or paying any cash dividends on our common stock in the foreseeable future. See "Dividend Policy."

Number and Election of Directors

Our Board consists of seven members. The holders of common stock and any other class of stock of our company, to the extent they shall have the right to vote, shall retain the right to elect and remove all members of the board of directors.

Quorum/Voting

At all meetings of our board of directors, a majority of the total number of directors constitutes a quorum. If there is a quorum, a vote of the majority of the directors present at the meeting is considered an act of our board of directors.

Removal of Directors

Our amended and restated articles provide that any director may be removed from office, but only for cause by the affirmative vote of not less than a majority of our shareholders entitled to vote in the election of directors. "Cause" is construed to exist only if the director whose removal is proposed has been convicted of a felony or has been adjudged to be liable for willful misconduct in the performance of his or her duties to us in a matter which has a material adverse effect on our business.

Vacancies on the Board of Directors

A vacancy on our board of directors may be filled by a vote of a majority of the remaining members of the board of directors, even if less than a quorum, at any meeting of the board of directors. A person so elected by the board of directors to fill a vacancy shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor shall have been duly elected and qualified.

Voting by Shareholders

Each holder of our common stock is entitled to one vote per share for the election of directors and for all other corporate purposes.

Amendment of Articles

The FBCA allows us to amend our amended and restated articles at any time to add or change a provision that is required or permitted to be included in the articles of incorporation or to delete a provision that is not required to be included in the articles of incorporation. Our board of directors can propose one or more amendments for submission to shareholders and may condition its submission of the proposed amendment on any basis if it provides certain notice and includes certain information regarding the proposed amendment in that notice. The provisions in our articles that require a greater voting requirement than provided in the FBCA may only be amended by the same vote required to take action under that voting requirement.

Amendment of Bylaws

Our bylaws may be amended or repealed, and new bylaws may be adopted by our shareholders at any annual or special meetings at which a quorum is present. The bylaws may also be amended or repealed, and new bylaws may be adopted by our board of directors by affirmative vote of a majority of the number of directors present at any meeting at which a quorum is in attendance. Notwithstanding the foregoing, pursuant to our articles, the provisions of our bylaws that require a greater voting requirement than provided in the FBCA may only be amended by the same vote required to take action under that voting requirement.

Anti-Takeover Effects of Various Provisions of Florida Law, Our Amended and Restated Articles of Incorporation and Our Bylaws

Provisions of Florida law have certain anti-takeover effects. Our amended and restated articles of incorporation and bylaws also contain provisions that may have similar effects.

Florida Anti-Takeover Statutes

The control share acquisition statute, Section 607.0902 of the FBCA, generally provides that in the event a person acquires voting shares of the company in excess of 20% of the voting power of all of our issued and outstanding shares, such acquired shares will not have any voting rights unless such rights are restored by the holders of a majority of the votes of each class or series entitled to vote separately, excluding shares held by the person acquiring the control shares or any of our officers or employees who are also directors of the company. Certain acquisitions of shares are exempt from these rules, such as shares acquired pursuant to the laws of intestate succession or pursuant to a gift or testamentary transfer, pursuant to a merger or share exchange effected in compliance with the FBCA if we are a party to the agreement, or pursuant to an acquisition of our shares if the acquisition has been approved by our board of directors before the acquisition. The control share acquisition statute generally applies to any "issuing public corporation," which means a Florida corporation which has:

- One hundred or more shareholders;
- Its principal place of business, its principal office, or substantial assets within Florida; and
- Either (i) more than 10% of its shareholders are resident in Florida; (ii) more than 10% of its shares are owned by residents of Florida; or (iii) one thousand shareholders are resident in Florida.

The affiliated transaction (or so-called "business combination") statute, Section 607.0901 of the FBCA, provides that we may not engage in certain mergers, consolidations, sales of assets, issuances of stock, reclassifications, recapitalizations, and other affiliated transactions with any "interested shareholder" for a period of three years following the time that such shareholder became an interested shareholder, unless:

- Prior to the time that such shareholder became an interested shareholder, our board of directors approved either the affiliated transaction or the transaction which resulted in the shareholder becoming an interested shareholder; or

- Upon consummation of the transaction that resulted in the shareholder becoming an interested shareholder, the interested shareholder owned at least 85% of our voting shares outstanding at the time the transaction commenced; or

- At or subsequent to the time that such shareholder became an interested shareholder, the affiliated transaction is approved by our board of directors and authorized at an annual or special meeting of shareholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting shares which are not owned by the interested shareholder.

An "interested shareholder" is generally defined as any person who is the beneficial owner of more than 15% of our outstanding voting shares.

The voting requirements set forth above do not apply to a particular affiliated transaction if one or more conditions are met, including, but not limited to, the following: if the affiliated transaction has been approved by a majority of our disinterested directors; if we have not had more than 300 shareholders of record at any time during the three years preceding the date the affiliated transaction is announced; if the interested shareholder has been the beneficial owner of at least 80% of our outstanding voting shares for at least three years preceding the date the affiliated transaction is announced; or if the consideration to be paid to the holders of each class or series of voting shares in the affiliated transaction meets certain requirements of the statute with respect to form and amount, among other things.

No Cumulative Voting

The FBCA provides that shareholders do not have the right to cumulate votes in the election of directors unless the articles of incorporation provide otherwise. Our articles do not provide for cumulative voting.

Advance Notice Requirements for Shareholder Proposals and Director Nominations; Calling a Special Meeting

Our amended and restated bylaws provide that shareholders seeking to bring business before an annual meeting must provide timely notice of their proposal in writing to the corporate secretary. To be timely, a shareholder's notice must have been received on or before December 31 of the year immediately preceding the annual meeting; provided, however, that in the event that the date of the annual meeting is on or after May 1 in any year, notice by the shareholder to be timely must be received not later than the close of business on the day which is determined by adding to December 31 of the year immediately preceding such annual meeting the number of days starting with May 1 and ending on the date of the annual meeting in such year. The amended and restated bylaws also specify requirements as to the form and content of a shareholder's notice. These provisions may impede shareholders' ability to bring matters before an annual meeting of shareholders or make nominations for directors at an annual meeting of shareholders.

Our amended and restated bylaws also provide that a special meeting of shareholders can only be called by our chairman of the board of directors, our chief executive officer, our president (in the absence of a chief executive officer), a majority of our board of directors or the holders of 10% or more of all of our votes entitled to be cast on any issue proposed to be considered at the special meeting of shareholders.

Authorized But Unissued Shares

Our authorized but unissued shares of common stock and preferred stock will be available for future issuance without shareholder approval. We could use these additional shares for a variety of corporate purposes, including future public offerings to raise additional capital, acquisitions of other businesses or entities and issuances under employee benefit plans. Additionally, we could issue a series of preferred stock that could, depending on its terms, impede the completion of a merger, tender offer or other takeover attempt. Our board of directors will make any determination to issue such shares based on its judgment as to the best interests of us and our shareholders. The board of directors, in so acting, could issue preferred stock having terms that could discourage an acquisition attempt through which an acquiror may be able to change the composition of the board of directors, including a tender offer or other transaction that some, or a majority, of our shareholders might believe to be in their best interests or in which shareholders might receive a premium over the then-current market price of the common stock.

Exclusive Jurisdiction

Our amended and restated bylaws provide that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our current or former directors, officers or other employees to us or our shareholders, (iii) any action arising pursuant to any provision of the FBCA, our amended and restated articles of incorporation or our amended and restated bylaws, or (iv) any other action asserting a claim that is governed by the internal affairs doctrine shall be a state court located within the state of Florida (or, if a state court located within the state of Florida does not have jurisdiction, the federal district court for the Middle District of Florida); provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act, or to any claim for which the federal courts have exclusive jurisdiction. Our bylaws also provide that, unless we consent in writing to the selection of an alternative forum, the U.S. federal district courts shall be the exclusive forum for the resolution of any claims arising under the Securities Act. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to these provisions. Although we believe these provisions benefit us by providing increased consistency in the application of law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against us or our directors and officers. We note that investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Please also see the section titled "Risk Factors—Risks Related to Ownership of our Common Stock—Our bylaws that will be in effect immediately prior to the completion of this offering designates the state courts located within the state of Florida as the exclusive forum for substantially all disputes between us and our shareholders and the federal district courts as the exclusive forum for Securities Act claims, which could limit our shareholders' ability to obtain a favorable judicial forum for disputes with us."

Preemptive Rights

No holder of our common stock has any preemptive or subscription rights to acquire shares of our capital stock.

Liability and Indemnification of Officers and Directors

Our amended and restated articles of incorporation and bylaws provide that we shall indemnify any and all persons whom we shall have power to indemnify under the FBCA to the fullest extent permitted by law.

Section 607.0831 of the FBCA, provides that a director is not personally liable for monetary damages to the corporation or any other person for any statement, vote, decision to take or not to take action, or any failure to take any action, as a director, unless (1) the director breached or failed to perform his or her duties as a director and (2) the director's breach of, or failure to perform, those duties constitutes (a) a violation of the criminal law, unless the director had reasonable cause to believe his or her conduct was lawful or had no reasonable cause to believe his or her conduct was unlawful, (b) a transaction from which the director derived an improper personal benefit, either directly or indirectly, (c) a circumstance under which the liability provisions of Section 607.0834 of the FBCA are applicable, (d) in a proceeding by or in the right of the corporation to procure a judgment in its favor or by or in the right of a shareholder, conscious disregard for the best interest of the corporation, or willful or intentional misconduct, or (e) in a proceeding by or in the right of someone other than the corporation or a shareholder, recklessness or an act or omission which was committed in bad faith or with malicious purpose or in a manner exhibiting wanton and willful disregard of human rights, safety, or property. A judgment or other final adjudication against a director in any criminal proceeding for a violation of the criminal law estops that director from contesting the fact that his or her breach, or failure to perform, constitutes a violation of the criminal law; but does not estop the director from establishing that he or she had reasonable cause to believe that his or her conduct was lawful or had no reasonable cause to believe that his

or her conduct was unlawful.

Under Section 607.0851 of the FBCA, a corporation has power to indemnify any person who is a party to any proceeding (other than an action by, or in the right of the corporation), because he or she is or was a director or officer of the corporation against liability incurred in connection with such proceeding, including any appeal thereof, if he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The termination of any proceeding by judgment, order, settlement or conviction or upon a plea of nolo contendere or its equivalent shall not, of itself, create a presumption that the person did not act in good faith and in a manner which he or she reasonably believed to be in, or not opposed to, the best interests of the corporation or, with respect to any criminal action or proceeding, has reasonable cause to believe that his or her conduct was unlawful.

For purposes of the indemnification provisions of the FBCA, "director" or "officer" means an individual who is or was a director or officer, respectively, of a corporation or who, while a director or officer of the corporation, is or was serving at the corporation's request as a director or officer, manager, partner, trustee, employee, or agent of another domestic or foreign corporation, limited liability company, partnership, joint venture, trust, employee benefit plan, or another enterprise or entity and the terms include, unless the context otherwise requires, the estate, heirs, executors, administrators, and personal representatives of a director or officer.

In addition, under Section 607.0851 of the FBCA, a corporation has the power to indemnify any person, who was or is a party to any proceeding by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person is or was a director or officer, against expenses and amounts paid in settlement not exceeding, in the judgment of the board of directors, the estimated expense of litigating the proceeding to conclusion, actually and reasonably incurred in connection with the defense or settlement of such proceeding, including any appeal thereof. Such indemnification shall be authorized if such person acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification shall be made under this subsection in respect of any claim, issue, or matter as to which such person shall have been adjudged to be liable unless, and only to the extent that, the court in which such proceeding was brought, or any other court of competent jurisdiction, shall determine upon application that, despite the adjudication of liability but in view of all circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which such court shall deem proper.

Section 607.0852 of the FBCA provides that a corporation must indemnify an individual who is or was a director or officer who was wholly successful, on the merits or otherwise, in the defense of any proceeding to which the individual was a party because he or she is or was a director or officer of the corporation against expenses incurred by the individual in connection with the proceeding.

Section 607.0853 of the FBCA provides that a corporation may, before final disposition of a proceeding, advance funds to pay for or reimburse expenses incurred in connection with the proceeding by an individual who is a party to the proceeding because that individual is or was a director or an officer if the director or officer delivers to the corporation a signed written undertaking of the director or officer to repay any funds advanced if (a) the director or officer is not entitled to mandatory indemnification under Section 607.0852; and (b) it is ultimately determined under Section 607.0854 or Section 607.0855 (as described below) that the director or officer has not met the relevant standard of conduct described in Section 607.0851 or the director or officer is not entitled to indemnification under Section 607.0859 (as described below).

Section 607.0854 of the FBCA provides that, unless the corporation's articles of incorporation provide otherwise, notwithstanding the failure of a corporation to provide indemnification, and despite any contrary determination of the board of directors or of the shareholders in the specific case, a director or officer of the corporation who is a party to a proceeding because he or she is or was a director or officer may apply for indemnification or an advance for expenses, or both, to a court having jurisdiction over the corporation which is conducting the proceeding, or to a circuit court of competent jurisdiction. Our amended and restated articles of incorporation do not provide any such exclusion. After receipt of an application and after giving any notice it considers necessary, the court may order indemnification or advancement of expenses upon certain determinations of the court.

Section 607.0855 of the FBCA provides that, unless ordered by a court under Section 607.0854, a corporation may not indemnify a director or officer under Section 607.0851 unless authorized for a specific proceeding after a determination has been made that indemnification is permissible because the director or officer has met the relevant standard of conduct set forth in Section 607.0851.

Section 607.0857 of the FBCA also provides that a corporation shall have the power to purchase and maintain insurance on behalf of and for the benefit of any person who is or was a director or officer of the corporation against any liability asserted against the person and incurred by him or her in any such capacity or arising out of his or her status as such, whether or not the corporation would have the power to indemnify or advance expenses to the individual against such liability under the provisions of Section 607.0857.

Section 607.0858 of the FBCA provides that the indemnification provided pursuant to Section 607.0851 and Section 607.0852, and the advancement of expenses provided pursuant to Section 607.0853, are not exclusive. A corporation may, by a provision in its articles of incorporation, bylaws, or any agreement, or by vote of shareholders or disinterested directors, or otherwise, obligate itself in advance of the act or omission giving rise to a proceeding to provide any other or further indemnification or advancement of expenses to any of its directors or officers.

Section 607.0859 of the FBCA provides that, unless ordered by a court under the provisions of Section 607.0854 of the FBCA, a corporation may not indemnify a director or officer under Section 607.0851 or Section 607.0858, or advance expenses to a director or officer under Section 607.0853 or Section 607.0858, if a judgment or other final adjudication establishes that his or her actions, or omissions to act, were material to the cause of action so adjudicated and constitute: (a) willful or intentional misconduct or a conscious disregard for the best interests of the corporation in a proceeding by or in the right of the corporation to procure a judgment in its favor or in a proceeding by or in the right of a shareholder; (b) a transaction in which a director or officer derived an improper personal benefit; (c) a violation of the criminal law, unless the director or officer had reasonable cause to believe his or her conduct was lawful or had no reasonable cause to believe his or her conduct was unlawful; or (d) in the case of a director, a circumstance under which the liability provisions of Section 607.0834 are applicable (relating to unlawful distributions).

These provisions may have the practical effect in certain cases of eliminating the ability of shareholders to collect monetary damages from our directors and officers. We believe that these provisions are necessary to attract and retain qualified persons to serve as our directors and officers. There is currently no pending material litigation or proceeding involving any of our directors, officers or employees for which indemnification is sought.

Transfer Agent and Registrar

American Stock Transfer (also known as Equiniti) will be the transfer agent and registrar for our common stock. The transfer agent's address is 6201 15th Avenue, Brooklyn, NY 11219.

Listing

We have applied to list our common stock on the Nasdaq Capital Market under the symbol "MIRA".

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there was no public market for our common stock, and there can be no assurance that a significant public market for our common stock will develop or be sustained after this offering. Future sales of substantial amounts of our common stock in the public market (including securities convertible into or redeemable, exchangeable, or exercisable for shares of common stock) or the perception that such sales may occur or the availability of such shares for sale in the public market, after this offering could adversely affect the prevailing market price of our common stock. Furthermore, because all of our common stock outstanding prior to the completion of this offering (including securities convertible into or redeemable, exchangeable, or exercisable for shares of our common stock) will be subject to the contractual and legal restrictions on resale described below, the sale of a substantial amount of common stock in the public market after these restrictions lapse could materially adversely affect the prevailing market price of our common stock and our ability to raise equity capital in the future.

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market after the lock-up and other legal restrictions on resale discussed in this prospectus lapse, the trading price of our common stock could decline. Based on shares of common stock outstanding as of [●], 2023, upon the completion of this offering we will have outstanding a total of [●] shares of common stock. Of these shares, only the shares of common stock sold in this offering by us, plus any shares sold upon exercise of the underwriters' option to purchase additional shares, will be freely tradable without restriction in the public market immediately following this offering.

The lock-up agreements pertaining to this offering will expire [●] days from the date of this prospectus, subject to earlier release of all or a portion of the shares subject to such agreements by the representatives of the underwriters in this offering in their sole discretion. After the lock-up agreements expire, based upon the number of shares of common stock, on an as-converted basis, outstanding as of [●], 2023, up to an additional [●] shares of common stock will be eligible for sale in the public market. Approximately [●]% of these additional shares are beneficially held by directors, executive officers and their affiliates and will be subject to certain limitations of Rule 144 under the Securities Act of 1933, as amended, or the Securities Act.

In addition, shares of common stock that are either subject to outstanding options or reserved for future issuance under our existing equity compensation plans will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules, the lock-up agreements and Rule 144 and Rule 701 under the Securities Act. If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline. Additionally, the number of shares of our common stock reserved for issuance under the 2022 Omnibus Plan will automatically increase on January 1 of each year following our initial public offering by the least of 1.0 million shares, 1% of outstanding shares, or such lesser number as is determined by our board of directors.

All of the shares of common stock sold in this offering will be freely transferable without restriction or further registration under the Securities Act by persons other than "affiliates," as that term is defined in Rule 144 under the Securities Act.

Generally, the balance of our outstanding shares of common stock will be deemed "restricted securities" within the meaning of Rule 144 under the Securities Act, subject to the limitations and restrictions that are described below. Common stock purchased by our affiliates will be "restricted securities" under Rule 144. Restricted securities may be sold in the public market only if they are registered under the Securities Act or if they qualify for an exemption from registration under Rule 144 or Rule 701 under the Securities Act, which rules are summarized below.

As a result of the lock-up agreements described below and subject to the provisions of Rule 144 or Rule 701, shares of our common stock will be available for sale in the public market as follows:

- beginning on the date of this prospectus, all [●] shares of our common stock sold in this offering will be immediately available for sale in the public market;
- beginning [●] days after the date of this prospectus, [●] additional shares of common stock become eligible for sale in the public market, of which [●] shares would be held by affiliates and subject to the volume and other restrictions of Rule 144, as described below.

Lock-up Agreements

In connection with this offering, we, our directors, our executive officers and stockholders holding 5% or more of our shares of common stock outstanding as of [●], 2023 have agreed, subject to certain exceptions, with the underwriters not to dispose of or hedge any shares of our common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of the lock-up agreement continuing through the date 180 days after the closing date of this offering, except with the prior written consent of [●] the representative of the underwriters and certain other exceptions. The representative of the underwriters has advised us that they have no current intent or arrangement to release any of the shares subject to the lock-up agreements prior to the expiration of the lock-up period. See "Underwriting".

Following the lock-up periods set forth in the agreements described above, and assuming that the representative of the underwriters does not release any parties from these agreements, all of the shares of our common stock that are restricted securities or are held by our affiliates as of the date of this prospectus will be eligible for sale in the public market in compliance with Rule 144 under the Securities Act.

Rule 144

In general, under Rule 144 as in effect on the date of this prospectus, beginning 90 days after completion of this offering, a person (or persons whose common stock is required to be aggregated) who is an affiliate and who has beneficially owned our common stock for at least six months is entitled to sell in any three-month period a number of shares that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately [●] shares immediately after completion of this offering; or
- the average weekly trading volume in our common stock [●] during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such a sale.

Sales by our affiliates under Rule 144 are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us. An "affiliate" is a person that directly, or indirectly through one or more intermediaries, controls or is controlled by, or is under common control with, an issuer.

Under Rule 144, a person (or persons whose shares are aggregated) who is not deemed to have been an affiliate of ours at any time during the 90 days preceding a sale, and who has beneficially owned the shares proposed to be sold for at least six months (including the holding period of any prior owner other than an affiliate), would be entitled to sell those shares subject only to availability of current public information about us, and after beneficially owning such shares for at least 12 months, would be entitled to sell an unlimited number of shares without restriction. To the extent that our affiliates sell their shares of common stock, other than pursuant to Rule 144 or a registration statement, the purchaser's holding period for the purpose of effecting a sale under Rule 144 commences on the date of transfer from the affiliate.

Regulation S

Regulation S under the Securities Act provides that securities owned by any person may be sold without registration in the United States, provided that the sale is effected in an "offshore transaction" and no "directed selling efforts" are made in the United States (as these terms are defined in Regulation S) and subject to certain other conditions. In general, this means that our shares may be sold in some manner outside the United States without requiring registration in the United States.

Rule 701

In general, under Rule 701 as in effect on the date of this prospectus, any of our employees, directors, officers, consultants, or advisors who purchased shares from us in reliance on Rule 701 in connection with a compensatory stock or option plan or other written agreement before the effective date of this offering, or who purchase shares from us after that date upon the exercise of options granted before that date, are eligible to resell such shares 90 days after the effective date of this offering in reliance upon Rule 144. If such person is not an affiliate, such sale may be made subject only to current public information provisions of Rule 144. If such a person is an affiliate, such sale may be made under Rule 144 without compliance with the holding period requirement, but subject to the other Rule 144 restrictions described above.

Equity Incentive Plans

Following the completion of this offering, we intend to file one or more registration statements on Form S-8 under the Securities Act to register all shares of common stock issued or issuable under the 2022 Omnibus Plan. Any such Form S-8 registration statements will automatically become effective upon filing. Accordingly, shares registered under such registration statements will be available for sale in the open market following the expiration of the lock-up period. We expect that the initial registration statements on Form S-8 will cover approximately [●] shares of our common stock. Shares issued under the 2022 Omnibus Plan after the effective date of the applicable Form S-8 registration statement will be eligible for resale in the public market without restriction, subject to Rule 144 limitations applicable to affiliates and the lock-up agreements described above. See "Executive Compensation — Executive Compensation Arrangements — Equity Compensation", and "Executive Compensation Plan" for a description of the 2022 Omnibus Plan.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF OUR COMMON STOCK

The following discussion is a summary of the material U.S. federal income tax consequences to non-U.S. holders (as defined below) of the ownership and disposition of shares of our common stock issued pursuant to this offering but is not intended to be a complete analysis of all potential tax consequences. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended (the "Code"), final, temporary, and proposed Treasury Regulations, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service (the "IRS"), in each case as in effect as of the date of this prospectus. These authorities may change or be subject to differing interpretations, and any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a non-U.S. holder of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the ownership and disposition of our common stock.

This discussion is limited to a non-U.S. holder that holds our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a non-U.S. holder's particular circumstance, including the impact of the alternative minimum tax, the special tax accounting rules in Section 451(b) of the Code or the Medicare surtax on net investment income provided by Section 1411 of the Code. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons holding shares of our common stock as part of a straddle, or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies, and other financial institutions;
- brokers, dealers, or certain electing traders in securities that use a mark-to-market method of tax accounting for their securities positions;
- "controlled foreign corporations", "passive foreign investment companies" , as defined in Sections 957 and Section 1297 of the Code, respectively, and corporations that accumulate earnings to avoid U.S. federal income tax under Section 531 and 532 of the Code;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes and other pass-through entities (and investors in such entities);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- tax-qualified retirement plans; and
- "qualified foreign pension funds" as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

If an entity treated as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership, and certain determinations made at the partner level. Partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP, AND DISPOSITION OF SHARES OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL, OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of a Non-U.S. Holder

For purposes of this discussion, a "non-U.S. holder" is any beneficial owner of our common stock that is an individual, corporation, estate or trust and is not a "U.S. person." A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (1) is subject to the primary supervision of a U.S. court and the control of one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code), or (2) has a valid election in effect to be treated as a United States person for U.S. federal income tax purposes.

Distributions

As described in the section entitled "Dividend Policy," we do not anticipate declaring or paying dividends to holders of our common stock in the foreseeable future. However, if we do make distributions of cash or property on our common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a nontaxable return of capital and first be applied against and reduce a Non-U.S. Holder's adjusted tax basis in its common stock, but not below zero, and any excess will be treated as capital gain and will be treated as described below under "— Sale or Other Taxable Disposition".

Subject to the discussion below on effectively connected income, dividends paid to a Non-U.S. Holder of our common stock will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder furnishes a valid IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) certifying qualification for the lower treaty rate of withholding). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such dividends are attributable), the Non-U.S. Holder will be exempt from the U.S. federal withholding tax described above. To claim the exemption, the non-U.S. holder must furnish to the applicable withholding agent a valid IRS Form W-8ECI, certifying that the dividends are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States.

Any such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the rates applicable to U.S. persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected dividends, as adjusted for certain items. Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Sale or Other Taxable Disposition

Subject to the discussion below under "— Information Reporting and Backup Withholding" and "— Additional Withholding Tax Under FATCA", a Non-U.S. Holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such gain is attributable);or

- the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met;

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the rates applicable to U.S. persons. A non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

Gain described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty), which may be offset by U.S. source capital losses of the non-U.S. Holder (even though the individual is not considered a resident of the United States), provided the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

Non-U.S. Holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Information returns are required to be filed with the IRS in connection with any dividends on our common stock paid to a non-U.S. holder whether or not withholding is required. Copies of the information returns reporting such interest, dividends, and withholding may also be made available to the tax authorities in the country in which a non-U.S. holder resides under the provisions of an applicable income tax treaty. Payments of dividends on our common stock will not be subject to backup withholding, provided the applicable withholding agent does not have actual knowledge or reason to know the beneficial owner is a United States person and the Non-U.S. Holder either certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or other applicable documentation, or otherwise establishes an exemption. Proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting, if the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that such beneficial owner is a United States person, or otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. Holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax Under FATCA

Sections 1471 to 1474 of the Code (such sections commonly referred to as the Foreign Account Tax Compliance Act, or "FATCA") and the Treasury Regulations and administrative guidance thereunder impose a 30% withholding tax on certain types of payments made to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), including, in some cases, when such foreign financial institution or non-financial foreign entity acts as an intermediary, unless (1) the foreign financial institution has entered into an agreement with the U.S. government to withhold on certain payments and to undertake certain diligence and reporting obligations regarding U.S. account holders (including certain account holders that are non-U.S. entities with U.S. owners), (2) the non-financial foreign entity either certifies it does not have any "substantial United States owners" (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign

financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends on our common stock. While withholding under FATCA would have applied also to payments of gross proceeds from the sale or other disposition of stock on or after January 1, 2019, recently proposed Treasury Regulations eliminate FATCA withholding on payments of gross proceeds entirely. Taxpayers generally may rely on these proposed Treasury Regulations until final Treasury Regulations are issued.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.

UNDERWRITING

Kingswood Investments, division of Kingswood Capital Partners LLC is acting as representative of the underwriters (the "Representative") of the offering. We have entered into an underwriting agreement (the "underwriting agreement") with the Representative. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters named below, and the underwriters have agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite the underwriter's name in the following table at the initial public offering price per share less underwriting discounts and commissions, as set forth on the cover page of this prospectus.

Underwriter	Number of Shares
Kingswood Investments, division of Kingswood Capital Partners, LLC	
Total	

The underwriters are committed to purchase all of the shares offered by us other than those shares covered by the Over-Allotment Option described below, if they purchase any shares. The obligations of the underwriters may be terminated upon the occurrence of certain events specified in the underwriting agreement. Furthermore, pursuant to the underwriting agreement, the underwriters' obligations are subject to customary conditions, representations and warranties contained in the underwriting agreement, such as receipt by the underwriters of officers' certificates and legal opinions.

We have agreed to indemnify the underwriters against specified liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel and other conditions contained in the underwriting agreement. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Over-Allotment Option

We have granted the underwriters an option to purchase from us up to an additional [●] shares of our common stock, solely to cover over-allotments, if any, at the public offering price, less the underwriting discounts and commissions. The underwriters may exercise this option, in whole or in part, for our common stock, any time during the 45-day period from the date of this prospectus. If this option is exercised in full, the total price to the public will be $[●] and the total net proceeds before expenses to us will be $[●].

Underwriting Discount, Commissions and Expenses

The following table shows the per share of common stock and total underwriting discounts and commissions to be paid to the underwriters. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares, assuming an initial public offering price of $[●] per share, the midpoint of the estimated price range set forth on the cover page of this prospectus.

	Per Share	Total Without Exercise of Over-Allotment Option	Total With Exercise in Full of Over-Allotment Option
Public offering price	$	$	$
Underwriting discount and commissions	$	$	$
Proceeds, before expenses, to us	$	$	$

The Representative has advised us that they propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $____ per share. After the initial public offering, the public offering price, concession and discount may be changed.

We have also agreed to pay all of the expenses relating to the offering, including, but not limited to, (a) all filing fees and communication expenses relating to the registration of the shares of common stock to be sold in this offering with the Securities and Exchange Commission; (b) all fees and expenses relating to the listing of the shares on the Nasdaq Capital Market and such other exchanges as the Company and Representative together determine, including any fees charged by DTC; (c) all fees, expenses and disbursements relating to the registration or qualification of the shares under "blue sky" or securities laws. of such states of the United States of America and other jurisdictions designated by the Representative, including the reasonable fees and expenses of the Representative's blue sky counsel; (d) all fees, expenses and disbursements relating to the registration, qualification or exemption of the shares under the securities laws of such foreign jurisdictions designated by the Representative; (e) the costs of mailing and printing the underwriting documents (including the Underwriting Agreement, any Blue Sky Surveys and, if appropriate, any Agreement Among Underwriters, Selected Dealers' Agreement, Underwriters' Questionnaire and Power of Attorney), registration statements, prospectuses and all amendments, supplements and exhibits thereto and as many preliminary and final prospectuses as the Representative may reasonably deem necessary; (f) transfer and/or stamp taxes, if any, payable upon our transfer of the shares to the Underwriters; (g) the fees and expenses of the Company's accountants; (h) all filing fees and communication expenses associated with the review of the offering by FINRA; (i) expenses incurred by the Underwriters for any roadshow for the offering up to $10,000; (j) the costs associated with bound volumes of the offering materials in an aggregate amount not to exceed $5,000; (k) the fees of counsel to the underwriters in an amount not to exceed $150,000; (l) fees and expenses of the transfer agent for our common stock; and (m) the costs of preparing, printing and delivering certificates representing the common stock issued in this offering.

We have paid a $25,000 expense advance to the Representative, which shall be applied against actual out-of-pocket-accountable expenses, which will be returned to us to the extent such out-of-pocket accountable expenses are not actually incurred in accordance with FINRA Rule 5110(f)(2)(C). We have agreed to pay to the Representative

0.5% of the gross proceeds of the offering for non-accountable expenses, payable upon the closing of the offering.

We estimate that the total expenses of the offering payable by us, excluding the total underwriting discount, and including the above-referenced advance to the Representative, will be approximately $[●].

Discretionary Accounts

The underwriters do not intend to confirm sales of the shares offered hereby to any accounts over which they have discretionary authority.

Representative's Warrants

We have agreed to issue to the Representative or its designees at the closing of this offering warrants to purchase the number of common stock equal to 5.0% of the aggregate number of shares sold in this offering. The warrants will be exercisable at any time and from time to time, in whole or in part, during the four-and-a-half-year period commencing six months after the commencement of sales in this offering. The warrants will be exercisable at a per share price equal to 100% of the initial public offering price per share in the offering. The Warrants provide for registration rights (including a one-time demand registration right and piggyback registration rights that expire 5 years after the closing of this offering) and customary anti-dilution provisions as permitted under FINRA Rule 5110(g)(8).

The warrants have been deemed compensation by FINRA and are therefore subject to a 180-day lock-up pursuant to Rule 5110(e)(1) of FINRA. The Representative (or permitted assignees under Rule 5110(e)(2)(B)) will not sell, transfer, assign, pledge, or hypothecate these warrants or the securities underlying these warrants, nor will they engage in any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the warrants or the underlying securities for a period of 180 days from the date of this prospectus. The warrants and the common stocks underlying the warrants are being registered as a part of the registration statement of which this prospectus forms a part and will be freely tradable upon the declaration of the effectiveness of such registration statement by the SEC.

The exercise price and number of shares of common stock issuable upon exercise of the warrants may be adjusted in certain circumstances including in the event of a stock dividend, extraordinary cash dividend or recapitalization, reorganization, merger or consolidation.

Right of First Refusal

Subject to the closing of this offering and certain conditions set forth in the underwriting agreement, for a period of twelve (12) months after the closing of the offering, the Representative shall have a right of first refusal to act as sole investment banker, sole bookrunner and/or sole placement agent, at the discretion of the Representative, for any and all future public and private equity offerings, including all equity-linked financings, undertaken during such period by us, or any of our successors or subsidiaries.

Tail Period

The Representative shall be entitled to a cash fee equal to seven percent (7%) of the gross proceeds received by the Company from the sale of any equity, debt and/or equity derivative instruments to any investor actually introduced by the Representative to the Company during the period beginning on April 25, 2023 and ending on the later of (i) April 25, 2024 or (ii) the final closing, if any, of the Offering (the "Engagement Period"), in connection with any public or private financing or capital raise (each a "Tail Financing"), and such Tail Financing is consummated at any time during the Engagement Period or within the twelve (12) month period following the expiration or termination of the Engagement Period (the "Tail Period"), provided that such Tail Financing is by a party actually introduced to the Company first by the Representative during the Engagement Period.

Lock-Up Agreements

Our officers and directors, and certain of our stockholders have agreed not to, without the prior written consent of the Representative, directly or indirectly, offer to sell, sell, pledge or otherwise transfer or dispose of any shares of our common stock (or enter into any transaction or device that is designed to, or could be expected to, result in the transfer or disposition by any person at any time in the future of shares of our common stock, enter into any swap or other derivatives transaction that transfers to another, in whole or in part, any of the economic benefits or risks of ownership of shares of common stock, make any demand for or exercise any right or cause to be filed a registration statement, including any amendments thereto, with respect to the registration of any of the shares of common stock or securities convertible into or exercisable or exchangeable for shares of common stock or any other of our securities or publicly disclose the intention to do any of the foregoing, subject to customary exceptions, for periods of 180 days from the date of this prospectus.

No Sales of Similar Securities

We have agreed not to offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock or enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of shares of our common stock, whether any such transaction is to be settled by delivery of shares of common stock or such other securities, in cash or otherwise, without the prior written consent of the Representative, for a period of 180 days from the date of this prospectus.

Electronic Offer, Sale, and Distribution of Securities

A prospectus in electronic format may be made available on the websites maintained by one or more of the underwriters or selling group members. The Representative may agree to allocate a number of shares of common stock to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters and selling group members that will make internet distributions on the same basis as other allocations. Other than the prospectus in electronic format, the information on these websites is not part of, nor incorporated by reference into, this prospectus or the registration statement of which this prospectus forms a part, has not been approved or endorsed by us, and should not be relied upon by investors.

Listing

We have applied to have shares of our common stock listed on the Nasdaq Capital Market under the symbol "MIRA".

Determination of Offering Price

Before this offering, there has been no public market for shares of our common stock. Accordingly, the public offering price will be negotiated between us and the underwriter. Among the factors to be considered in these negotiations are:

- the information set forth in this prospectus and otherwise available to the underwriter;
- the prospects for our Company and the industry in which we operate;
- an assessment of our management;
- our past and present financial and operating performance;
- our prospects for future earnings;

- financial and operating information and market valuations of publicly traded companies engaged in activities similar to ours;
- the prevailing conditions of United States securities markets at the time of this offering; and
- other factors deemed relevant.

Neither we nor the underwriter can assure investors that an active trading market will develop for shares of our common stock, or that the shares will trade in the public market at or above the initial public offering price.

Stabilization

In connection with this offering, the underwriter may engage in stabilizing transactions, over-allotment transactions, syndicate-covering transactions, penalty bids, and purchases to cover positions created by short sales.

- Stabilizing transactions permit bids to purchase securities so long as the stabilizing bids do not exceed a specified maximum and are engaged in for the purpose of preventing or retarding a decline in the market price of the securities while the offering is in progress.

- Over-allotment transactions involve sales by the underwriter of securities in excess of the number of securities the underwriter is obligated to purchase. This creates a syndicate short position which may be either a covered short position or a naked short position. In a covered short position, the number of securities over-allotted by the underwriter is not greater than the number of securities that they may purchase in the over-allotment option. In a naked short position, the number of securities involved is greater than the number of securities in the over-allotment option. The underwriter may close out any short position by exercising their over-allotment option and/or purchasing securities in the open market.

- Syndicate covering transactions involves purchases of securities in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of securities to close out the short position, the underwriter will consider, among other things, the price of securities available for purchase in the open market as compared with the price at which they may purchase securities through exercise of the over-allotment option. If the underwriter sells more securities than could be covered by exercise of the over-allotment option and, therefore, have a naked short position, the position can be closed out only by buying securities in the open market. A naked short position is more likely to be created if the underwriter is concerned that after pricing there could be downward pressure on the price of the securities in the open market that could adversely affect investors who purchase in the offering.

- Penalty bids permit the underwriter to reclaim a selling concession from a syndicate member when the securities originally sold by that syndicate member are purchased in stabilizing or syndicate covering transactions to cover syndicate short positions.

These stabilizing transactions, over-allotment transactions, syndicate covering transactions, and penalty bids may have the effect of raising or maintaining the market price of our securities or preventing or retarding a decline in the market price of our securities. As a result, the price of our securities in the open market may be higher than it would otherwise be in the absence of these transactions. Neither we nor the underwriter make any representation or prediction as to the effect that the transactions described above may have on the price of our securities. These transactions may be affected on the Nasdaq Stock Market, in the over-the-counter market or otherwise and, if commenced, may be discontinued at any time.

Passive Market Making

In connection with this offering, underwriter, and selling group members may engage in passive market making transactions in our securities on the Nasdaq Stock Market in accordance with Rule 103 of Regulation M under the Exchange Act, during a period before the commencement of offers or sales of the shares and extending through the completion of the distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, then that bid must then be lowered when specified purchase limits are exceeded.

Other Relationships

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to us and to persons and entities with relationships with us, for which they received or will receive customary fees and expenses.

SELLING RESTRICTIONS

Other than in the United States, no action has been taken by us or the underwriter that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

European Economic Area

In relation to each member state of the European Economic Area that has implemented the Prospectus Directive (each, a relevant member state), with effect from and including the date on which the Prospectus Directive is implemented in that relevant member state (the relevant implementation date), an offer of shares described in this prospectus may not be made to the public in that relevant member state other than:

- to any legal entity which is a qualified investor as defined in the Prospectus Directive;

- to fewer than 100 or, if the relevant member state has implemented the relevant provision of the 2010 PD Amending Directive, 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the relevant Dealer or Dealers nominated by us for any such offer; or

- in any other circumstances falling within Article 3(2) of the Prospectus Directive,

- provided that no such offer of shares shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For purposes of this provision, the expression an "offer of securities to the public" in any relevant member state means the communication in any form and by any means of

sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe for the shares, as the expression may be varied in that member state by any measure implementing the Prospectus Directive in that member state, and the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the relevant member state) and includes any relevant implementing measure in the relevant member state. The expression 2010 PD Amending Directive means Directive 2010/73/EU.

The sellers of the shares have not authorized and do not authorize the making of any offer of shares through any financial intermediary on their behalf, other than offers made by the underwriters with a view to the final placement of the shares as contemplated in this prospectus. Accordingly, no purchaser of the shares, other than the underwriters, is authorized to make any further offer of the shares on behalf of the sellers or the underwriters.

United Kingdom

This prospectus is only being distributed to, and is only directed at, persons in the United Kingdom that are qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive that are also (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order") or (ii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (each such person being referred to as a "relevant person"). This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other persons in the United Kingdom. Any person in the United Kingdom that is not a relevant person should not act or rely on this document or any of its contents.

Canada

The securities may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI33-105 regarding underwriter conflicts of interest in connection with this offering.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Foley & Lardner LLP, Tampa, Florida. Lucosky Brookman LLP has acted as counsel for the underwriters with respect of this offering.

EXPERTS

The financial statements of MIRA Pharmaceuticals, Inc. as of and for the years ended December 31, 2022 and 2021 included in this prospectus have been audited by Cherry Bekaert LLP, an independent registered public accounting firm, appearing elsewhere herein, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all the information set forth in the registration statement. The rules and regulations of the SEC allow us to omit certain information from this prospectus that is included in the registration statement. Statements made in this prospectus concerning the contents of any contract, agreement, or other document are summaries of all material information about the documents summarized but are not complete descriptions of all terms of these documents. If we filed any of these documents as an exhibit to the registration statement, you may read the document itself for a complete description of its terms.

You may read and copy the registration statement, including the related exhibits and schedules, and any document we file with the SEC without charge at the SEC's public reference room at 100 F Street, N.E., Room 1580, Washington, DC 20549. You may also obtain copies of the documents at prescribed rates by writing to the Public Reference Section of the SEC at 100 F Street, N.E., Room 1580, Washington, DC 20549. You may call the SEC at 1-800-SEC-0330 for further information on the public reference room. The SEC also maintains an Internet website that contains reports and other information regarding issuers that file electronically with the SEC. Our filings with the SEC are also available to the public through the SEC's website at http://www.sec.gov.

Upon completion of this offering, we will becomesubject to the information reporting requirements of the Exchange Act, and we will file periodic reports, proxy statements and other information with the SEC. These periodic reports, and other information are available for inspection and copying at the website of the SEC referred to above. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, reports on Form 8-K and amendments to those reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not incorporated by reference in, and is not part of, this prospectus. A copy of the registration statement and the exhibits filed therewith may be inspected without charge at the public reference room maintained by the SEC, located at 100 F Street, NE, Washington, DC 20549, and copies of all or any part of the registration statement may be obtained from that office. Please call the SEC at 1-800-SEC-0330 for further information about the public reference room. The SEC also maintains a website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address of the website is *www.sec.gov*.

We maintain a corporate website at www.mirapharmaceuticals.com. Information contained in, or that can be accessed through, our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference. We will post on our website any materials required to be so posted on such website under applicable corporate or securities laws and regulations.

INDEX TO FINANCIAL STATEMENTS

MIRA Pharmaceuticals, Inc. Financial Statements

As of and For the Years Ended December 31, 2022 and 2021

MIRA Pharmaceuticals, Inc. Condensed Financial Statements
As of March 31, 2023 and December 31, 2022
For the Three Months Ended March 31, 2023 and 2022

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders
MIRA Pharmaceuticals, Inc.
Tampa, Florida

Opinion on the Financial Statements

We have audited the accompanying balance sheets of MIRA Pharmaceuticals, Inc. (f/k/a MIRA1a Therapeutics, Inc.) (the "Company") as of December 31, 2022 and 2021, and the related statements of operations, stockholders' equity (deficit) and cash flows for the years then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits. We are required to be independent with respect to the Company in accordance with the relevant ethical requirements relating to our audit.

We conducted our audits in accordance with the auditing standards of the Public Company Accounting Oversight Board (United States) and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Emphasis of Matter

As more fully described in Note 2 to the financial statements, the Company has incurred historical net losses and sustained substantial cash losses. Our opinion is not modified with respect to this matter.

/s/ Cherry Bekaert LLP

We have served as the Company's auditor since 2022.

Tampa, Florida
April 4, 2023

MIRA Pharmaceuticals, Inc.
BALANCE SHEETS

DECEMBER 31, 2022 AND DECEMBER 31, 2021

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash	$ 350,978	$ 2,809,552

Deferred offering costs	143,427	100,000
Total current assets	494,405	2,909,552
Operating lease, right of use assets	164,910	-
Related party operating lease, right of use assets	198,759	-
Advances to affiliates	-	445,612
Total assets	**$ 858,074**	**$ 3,355,164**
LIABILITIES AND STOCKHOLDERS' (DEFICIT) EQUITY		
Current liabilities:		
Trade accounts payable and accrued liabilities	$ 811,738	$ 228,406
Related party accounts payable	116,350	547,600
Related party line of credit	133,062	293,062
Related party accrued interest	34,987	24,738
Current portion of operating lease liabilities	75,143	-
Related party current portion of operating lease liabilities	198,759	
Total current liabilities	1,370,039	1,093,806
Non-current operating lease liabilities	84,267	-
Total liabilities	1,454,306	1,093,806
Stockholders' (Deficit) Equity		
Preferred Stock, $0.0001 par value, 5,000,000 shares authorized and none issued or outstanding.	-	-
Common Stock, $0.0001 par value; 95,000,000 shares authorized, 13,313,000 and 12,673,800 issued and outstanding at December 31, 2022 and December 31, 2021, respectively.	6,657	6,337
Additional paid-in capital	8,699,830	4,499,550
Accumulated deficit	(9,302,719)	(2,244,529)
Total stockholders' (deficit) equity	(596,232)	2,261,358
Total liabilities and stockholders' (deficit) equity	**$ 858,074**	**$ 3,355,164**

The accompanying notes to the financial statements are an integral part of these statements.

MIRA Pharmaceuticals, Inc.
STATEMENTS OF OPERATIONS

YEAR ENDED DECEMBER 31, 2022 AND DECEMBER 31, 2021

	Year ended December 31,	
	2022	**2021**
Revenues	$ -	$ -
Operating costs:		
General and administrative expenses	2,992,125	770,115
Related party travel costs	1,704,350	697,600
Research and development expenses	2,351,465	684,447
Total operating costs	7,047,940	2,152,162
Interest expense	(10,250)	(24,374)
Net loss	**$ (7,058,190)**	**$ (2,176,536)**

The accompanying notes to the financial statements are an integral part of these statements.

MIRA Pharmaceuticals, Inc.
STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

YEAR ENDED DECEMBER 31, 2022 AND DECEMBER 31, 2021

	Common Stock		Additional Paid-In	Stock Subscription	Accumulated	Total Stockholders' Equity
	Shares	**Amount**	**Capital**	**Receivable**	**Deficit**	**(Deficit)**
Balances, January 1, 2021	11,773,800	5,887	-	(5,887)	(67,993)	(67,993)
Sale of common stock	900,000	450	4,499,550	-	-	4,500,000
Collection of stock subscription receivable	-	-	-	5,887	-	5,887
Net loss	-	-	-	-	(2,176,536)	(2,176,536)
Balances, December 31, 2021	**12,673,800**	**$ 6,337**	**$ 4,499,550**	**$ -**	**$ (2,244,529)**	**$ 2,261,358**
Sale of common stock, net	639,200	320	2,903,680	-	-	2,904,000
Stock-based compensation	-	-	1,296,600	-	-	1,296,600
Net loss	-	-	-	-	(7,058,190)	(7,058,190)
Balances, December 31, 2022	**13,313,000**	**$ 6,657**	**$ 8,699,830**	**$ -**	**$ (9,302,719)**	**$ (596,232)**

The accompanying notes to the financial statements are an integral part of these statements.

MIRA Pharmaceuticals, Inc.
STATEMENTS OF CASH FLOWS

YEAR ENDED DECEMBER 31, 2022 AND DECEMBER 31, 2021

	Year Ended December 31,	
	2022	**2021**
Cash flows from Operating activities		
Net loss	$ (7,058,190)	$ (2,176,536)
Adjustments to reconcile net loss to net cash from operations		
Non-cash interest expense	10,250	24,374
Stock-based compensation expense	1,296,600	-
Change in operating assets and liabilities:		
Right of use lease, net	(5,500)	-
Accounts payable and accrued expenses	152,081	776,006
Net cash flows from operating activities	(5,604,759)	(1,376,156)
Financing activities:		
Advances to affiliates	445,612	(426,732)
Payment of deferred offering costs	(43,427)	(100,000)
Net (repayments) borrowings under related party line of credit	(160,000)	203,062
Collection of stock subscription receivable	-	5,887
Proceeds from sale of common stock, less offering costs	2,904,000	4,500,000
Net cash flows from financing activities	3,146,185	4,182,217
Net change in cash	(2,458,574)	2,806,061
Cash, beginning of year	2,809,552	3,491
Cash, end of year	**$ 350,978**	**$ 2,809,552**
Cash paid for interest	-	-

Non-cash Financing and Investing Activities:

The Company recorded a right of use asset and a corresponding liability in the amount of $1.0 million in exchange for an operating lease liability as a result of the adoption of Accounting Standards Codification, ("ASC"), Topic 842, Leases, on January 1, 2022.

The accompanying notes to the financial statements are an integral part of these statements.

MIRA Pharmaceuticals, Inc.
NOTES TO THE FINANCIAL STATEMENTS

DECEMBER 31, 2022, AND DECEMBER 31, 2021

Note 1. Description of business and summary of significant accounting policies:

Overview

MIRA Pharmaceuticals, Inc. ("MIRA" or the "Company" and formerly known as MIRA1a Therapeutics, Inc.) was formed in September 2020 and is a Florida-based clinical development stage biopharmaceutical company that is developing its product candidate, MIRA1a, as a synthetic cannabinoid analog for treating anxiety and chronic pain by targeting the cannabinoid type 1 and type 2 (CB1 and CB2) receptors.

Substantive operations began in late 2020 and the Company's Investigative New Drug application is anticipated to be filed with the U.S. Food and Drug Administration ("FDA") end of first quarter 2024. The Company owns U.S. Patent 10,787,675 B2, titled "Purified Synthetic Marijuana and Methods of Treatment by Administering Same," which covers the MIRA1a compound as a new molecular entity as well as pharmaceutical formulations of the compound and methods of treating Alzheimer's disease, anxiety, depression, and addictions. Foreign patent applications covering MIRA1a, and its therapeutic uses are pending in Australia, Canada, China, Europe, Israel, Japan, and South Korea.

The accounting and reporting policies of the Company conform to accounting principles generally accepted in the United States of America ("GAAP").

As used herein, the Company's Common Stock, par value $0.0001 per share, is referred to as the "Common Stock" and the Company's preferred stock, par value $0.0001 per share, is referred to as the "Preferred Stock".

Pending transactions

The Company is in the process of preparing for an initial public offering and expects to be listed under the NASDAQ symbol "MIRA." The transaction is expected to be complete in second half of 2023. The Company incurred $0.04 million and $0.1 million of legal costs, during the years ended December 31, 2022 and December 31, 2021, respectively, associated with the offering, which have been recorded as deferred offering costs in the accompanying balance sheets. These deferred offering costs will be derecognized as a reduction in offering proceeds when the offering closes. However, there can be no guarantees that the Company will be successful in completing the proposed transaction and ultimately listing on the NASDAQ.

Income taxes

The Company is a C corporation. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amount of existing assets and liabilities and their respective tax bases. Deferred tax assets are recognized for temporary differences that will result in deductible amounts in future years and for loss carryovers. A valuation allowance is recognized regarding deferred tax assets, if any, if it is more likely than not that some portion of the deferred tax asset will not be realized.

Research and development expenses

Research and development costs are expensed in the period in which they are incurred and include the expenses paid to third parties, such as contract research organizations and consultants, who conduct research and development activities on behalf of the Company.

Use of estimates

The preparation of financial statements in accordance with generally accepted accounting principles in the United States of America requires the Company's management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results may differ from such estimates and such differences could be material.

Cash

The Company maintains cash balances with financial institutions that management believes are of high credit quality. The Company's cash account at times may exceed federally insured limits. The Company has not experienced any losses in such accounts. The Company believes it is not exposed to any significant credit risk from its cash account.

Stock-based compensation

The Company accounts for stock-based compensation under the provisions of FASB ASC 718, "*Compensation - Stock Compensation*", which requires the measurement and recognition of compensation expense for all stock-based awards made to employees, directors and consultants based on estimated fair values on the grant date. The Company estimates the fair value of stock-based awards on the date of grant using the Black-Scholes model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods using the straight-line method. The Company has elected to account for forfeiture of stock-based awards as they occur.

Change in Accounting Principle

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842), which supersedes existing guidance for accounting for leases under Topic 840, Leases. The FASB also subsequently issued additional ASUs which amend and clarify Topic 842. The most significant change in the new leasing guidance is the requirement to recognize right-to-use (ROU) assets and lease liabilities for operating leases on the balance sheet.

The Company adopted these ASUs effective January 1, 2022 using the modified retrospective approach. As a result of adopting these ASUs, the Company recorded ROU assets and lease liabilities of approximately $1.0 million and $0.4 million, respectively. Adoption of the new standard did not materially impact the Company's net income and had no impact on cash flows.

Note 2. Liquidity and capital resources:

As of December 31, 2022, the Company had cash of approximately $0.4 million. The Company used approximately $5.6 million of cash in operations during the year ended December 31, 2022 and had stockholders' (deficit) of approximately $0.6 million, versus stockholders' equity of approximately $2.3 million at December 31, 2021. During the year ended December 31, 2022, the Company raised approximately $3.2 million to finance its research and development and working capital needs, through a private placement of the Company's common stock and collections on amounts previously advanced to affiliates of the Company.

Historically, the Company has been primarily engaged in developing MIRA1a. During these activities, the Company sustained substantial losses. The Company's ability to fund ongoing operations and future clinical trials required for FDA approval is dependent on the Company's ability to obtain significant additional external funding in the near term. Since inception, the Company financed its operations through the sale of Common Stock and related party financings. See Note 4 for details of a related party line of credit established in 2021. Additional sources of financing may be sought by the Company. However, there can be no assurance that any fundraising will be achieved on commercially reasonable terms, if at all.

The Company expects to be able to fund operations through the anticipated initial public offering, or through the first quarter of 2024, with available borrowings on the related party line of credit (Note 4). Should actual cash expenditures exceed management's budget, the Company may be forced to curtail operations along with implementing other cost-saving measures, such as a reduction in staff, reducing the use of outside professional service providers, or significantly modifying or delaying the development of our product candidates.

Note 3. License agreement, related party:

On April 28, 2022, and subsequently amended and restated on June 27, 2022 (the "Effective Date"), the Company and MyMD Pharmaceuticals, Inc. ("MYMD") entered into a non-exclusive, royalty-free license (the "Agreement") to use MYMD's Supera-CBD as a synthetic intermediate in the manufacture of MIRA1a for research and development activities relating to our planned pre-clinical and clinical studies.

This Agreement was amended on April 17, 2023 to extend its original one-year term through December 31, 2024. The term of agreement may be extended by mutual agreement of the parties for an additional period that is reasonably necessary to complete the manufacture of quantities of MIRA1a needed for pre-clinical or clinical studies.

Either party may terminate this Agreement without cause upon forty-five (45) calendar days prior written notice to the other Party.

The Company and MYMD have similar members of the Board, as well as officers from the respective companies.

Note 4. Line of credit, related party:

In May 2021, the Company entered into a revolving credit facility which allows for borrowings of up to $5,000,000 with a shareholder. The facility has an initial term of 24

months (extended to 36 months in March 2023), with a new maturity date of May 10, 2024, at which time all outstanding borrowings and accrued interest, if any, are due in full. Borrowings accrue interest at a rate of 5% per annum. The Company anticipates repaying the line of credit through proceeds from the anticipated initial public offering.

Note 5. Related party transactions:

Advances to affiliates – During the year ended December 31, 2022, and December 31, 2021, the Company made working capital advances to companies under common control. These advances were due on demand and were non-interest bearing. As of December 31, 2022, such advances were repaid in full.

Related party accounts payable – Amounts due to related parties as of December 31, 2022 and December 31, 2021, are recorded as Accounts payable related parties, in the accompanying balance sheets.

Travel expenses – In April 2021, the Company entered into an airplane lease with an entity under common control that the Company incurs approximately $0.05 million of lease charges per month. The lease is renewable, at the Company's discretion, for an additional one to three years, however, the Company intends to terminate the lease upon the date of its initial public offering, as allowed in the lease agreement. During the year ended December 31, 2022 and 2021, the Company incurred $1.7 million and $0.7 million, respectively, for travel-related expenses to the related party for monthly rental charges and airplane-related expenses.

License agreement - See Note 3.

Line of credit - See Note 4.

Lease and lease reimbursements - See Note 6.

Consulting and employment agreements – See Note 9.

Note 6. Lease:

The Company leases certain office space and an airplane. The Company determines whether a contract contains a lease at inception by determining if the contract conveys the right to control the use of identified property, plant or equipment for a period of time in exchange for consideration. The Company has lease agreements with lease and non-lease components, which are generally accounted for separately with amounts allocated to the lease and non-lease components based on relative stand-alone prices.

Right-of-use ("ROU") assets and lease liabilities are recognized at the commencement date based on the present value of the future minimum lease payments over the lease term. Renewal and termination clauses that are factored into the determination of the lease term if it is reasonably certain that these options would be exercised by the Company. Lease assets are amortized over the lease term unless there is a transfer of title or purchase option reasonably certain of exercise, in which case the asset life is used. Certain of our lease agreements include variable payments. Variable lease payments not dependent on an index or rate primarily consist of common area maintenance charges and are not included in the calculation of the ROU asset and lease liability and are expensed as incurred. In order to determine the present value of lease payments, the Company uses the implicit rate when it is readily determinable. As most of the Company's leases do not provide an implicit rate, management uses the Company's incremental borrowing rate based on the information available at lease commencement to determine the present value of lease payments.

Our lease agreements do not contain any material residual value guarantees or material restrictive covenants. The Company does not have leases where it is involved with the construction or design of an underlying asset. The Company has no material obligation for leases signed but not yet commenced as of December 31, 2022. The Company does not have any material sublease activities.

Practical Expedients Elected

- The Company elected the three transition practical expedients that permit an entity to (a) not reassess whether expired or existing contracts contain leases, (b) not reassess lease classification for existing or expired leases, and (c) not consider whether previously capitalized initial direct costs would be appropriate under the new standard.
- The Company has elected to account for lease and non-lease components as a single component.

Variable lease costs

Variable lease costs primarily include utilities, property taxes, and other operating costs that are passed on from the lessor. Variable lease costs related to the aircraft include usage expenses, which includes pilot expenses, jet fuel and general flight expenses.

The components of lease expense were as follows:

	Year ended December 31,	
Lease Costs	**2022**	**2021**
Operating Lease Cost		
Operating Lease	$ 657,797	$ -
Variable Lease Costs	1,112,913	-
Total Lease Cost	$ 1,770,710	$ -

Supplemental cash flow information related to leases were as follows:

	Year ended December 31,	
Other Lease Information	**2022**	**2021**

Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$ 626,304	$ -

	Year ended December 31,	
	2022	2021
Lease Term and Discount		
Weighted Average remaining lease term	0.53 years	-
Weighted Average discount rate	5.0%	-

Maturity of Lease Liabilities

Future minimum lease payments under non-cancellable leases as of December 31, 2022 were as follows:

Maturity of Lease Liabilities

	December 31, 2022
2023	281,050
2024	69,309
2025	17,444
Total Lease payments	367,803
Less: Interest	(9,634)
Present Value of Lease Liabilities	358,169

Note 7. Income taxes:

The significant components of the Company's net deferred tax assets are as follows as of December 31:

	December 31,	
	2022	2021
Deferred tax assets		
Net operating loss carry-forward	$ 1,061,300	$ 572,355
Section 174 Qualified Research Expenditures	388,230	-
Stock compensation	330,633	-
ROU liability	91,333	-
Other	6,120	-
	1,877,616	572,355
Less: valuation allowance	(1,784,880)	(572,355)
	92,736	-
Deferred tax liabilities		
ROU asset	(92,736)	-
Total net deferred tax asset	**$ -**	**$ -**

Beginning in 2022, in accordance with Internal Revenue Code Section 174, Qualified Research Expenditures are capitalized for tax purposes and amortized over a period of five years. Accordingly, for income tax purposes, the Company has recorded a deferred tax asset totaling approximately $0.4 million related to the timing difference between GAAP and Tax recognition of these expenditures.

The components of the provision for income taxes consist of the following:

	2022	2021
Deferred tax:		
Deferred	(1,212,525)	(555,017)
Change in valuation allowance	1,212,525	555,017
Total deferred	-	-
Total provision for income taxes	**$ -**	**$ -**

ASC Topic 740 requires that a deferred tax amount be reduced by a valuation allowance if, based on the weight of available evidence it is more likely than not (a likelihood of more than 50%) that some portion or all of the deferred tax assets will not be realized. The valuation allowance should be sufficient to reduce the deferred tax asset to the amount that is more likely than not to be realized. The Company has recorded a full valuation allowance against its deferred tax assets generated by net operating loss carryforwards as it has determined that such amounts may not be recognizable, given the historical losses of the Company to date. As of December 31, 2022, the Company has a cumulative federal net operating loss carryforward of approximately $4.2 million. The net operating loss carryforwards have no expiry date.

Note 8. Stockholders' equity:

Capital stock

The Company has the authority to issue 110,000,000 shares of capital stock, consisting of 100,000,000 shares of Common Stock and 10,000,000 shares of undesignated preferred stock, whose rights and privileges will be defined by the Board of Directors when a series of preferred stock is designated.

Private placement

During the year ended December 31, 2022, the Company sold 3.2 million shares of Common Stock at $1.00 per share, net of offering costs of $0.3 million, resulting in net proceeds of $2.9 million.

2022 Omnibus Incentive Plan

In June 2022, the Company's Board of Directors adopted, and its stockholders approved, the Company's 2022 Omnibus Incentive Plan, ("2022 Omnibus Plan"). The 2022 Omnibus Plan authorizes the grant of incentive stock options, within the meaning of Section 422 of the Internal Revenue Code, to the Company's employees and any of its parent and subsidiary corporations' employees, and for the grant of nonstatutory stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares to the Company's employees, directors, and consultants and any of its future subsidiary corporations' employees and consultants.

The 2022 Omnibus Plan provides that 10,000,000 shares of the Company's Common Stock are reserved for issuance under the 2022 Omnibus Plan, all of which may be issued pursuant to the exercise of incentive stock options.

Stock-based compensation

During the year ended December 31, 2022, a total of 750,000 options to purchase Common Stock, with an aggregate fair market value of approximately $2.7 million were granted to the Company's Board of Directors, executive officers and management, and a consultant of the Company. Options have a term of 10 years from the grant date. The Company's option vesting structure is the following: (i) Board of Director options vest 100% on date of grant, (ii) executive officer options vest 25% on date of grant and the remaining vest ratably over a three-year period, and (iii) management, employee and consultant options vest 33.3% on date of grant and the remaining vest ratably over a two-year period.

The fair value of each option award is estimated on the grant date using the Black-Scholes valuation model that uses assumptions for expected volatility, expected dividends, expected term, and the risk-free interest rate.

Expected price volatility is based on the historical volatilities of a peer group as the Company does not have a trading history for its shares. Industry peers consist of several public companies in the biotech industry similar to the Company in size, stage of life cycle and product indications. The Company intends to continue to consistently apply this process using the same or similar public companies until a sufficient amount of historical information regarding the volatility of the Company's own stock price becomes available, or unless circumstances change such that the identified companies are no longer similar to the Company, in which case, more suitable companies whose share prices are publicly available would be utilized in the calculation.

Expected term of options granted is derived using the "simplified method" which computes expected term as the average of the sum of the vesting term plus contract term. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for the period of the expected term.

The key assumptions used in determining the fair value of options granted during the year ended December 31, 2022 follows:

Expected price volatility		84.42%
Risk-free interest rate		3.38%
Fair value of common stock	$	1.00
Minimum and maximum average expected life in years		5-6.50 years
Dividend yield		-

Option activity during the year ended December 31, 2022 was as follows:

	Number of shares	Weighted average exercise price per share	Aggregate intrinsic value
Outstanding as January 1, 2022	-		
Options granted	750,000	$ 5.00	
Outstanding as December 31, 2022	750,000	$ 5.00	-

As of December 31, 2022, options exercisable totaled 280,000. There are approximately $1.4 million of unrecognized compensation costs related to non-vested share-based compensation awards, which will be expensed through 2025.

Note 9 – Consulting and employment agreements:

On April 1, 2022, the Company entered into a Consulting Agreement with Dr. Chapman pursuant to which he provided regulatory and drug development consulting services to the Company on an as-requested basis. Pursuant to the Consulting Agreement, he was to be paid a one-time fee of $0.1 million upon the completion of the anticipated offering (of which $0.05 million was prepaid in in the first quarter of 2022) plus a monthly fee of $0.02 million thereafter. The monthly fee was to begin upon the completion of the offering. He was also reimbursed for reasonable out-of-pocket expenses incurred in connection with his duties under the Consulting Agreement. The agreement had a term of one year with an automatic one-year extension, provided that either party could terminate the agreement without cause upon 30-days prior written notice.

In his capacity as a consultant, Dr. Chapman was also granted on June 15, 2022, an option to purchase up to 200,000 shares of the Company's common stock at an exercise price of $5.00 per share. This option was granted under the Company's 2022 Omnibus Plan and vested as to 25% of the option shares on the date of grant, with the balance vesting in one-third increments on each of the three successive anniversaries of the grant date. Any unvested portion of the option will vest in full upon a "change of control" of our company within the meaning of the 2022 Omnibus Plan. The option has a term of 10-years, subject to earlier termination upon certain terminations of Dr. Chapman's position as a consultant to the Company. In his capacity as a Board Director, Dr. Chapman was also granted on June 15, 2022, an option to purchase up to 20,000 shares of the Company's common stock at an exercise price of $5.00 per share. This option was granted under the Company's 2022 Omnibus Plan and vested as to 100% of the option shares on the date of grant. The option has a term of 10-years, subject to earlier termination upon certain terminations of Dr. Chapman's position as a director of the Company.

Note 10 – Subsequent events:

The Company has evaluated subsequent events through April 4, 2023, in connection with the preparation of these financial statements, which is the date the financial statements were available to be issued.

Reverse Stock Split

Effective June 28, 2023, the Company completed a reverse stock split of its outstanding common stock upon the filing of the Company's Third Amended and Restated Articles of Incorporation with the Florida Secretary of State. No fractional shares were or will be issued in connection with the reverse stock split, and all such fractional shares resulting from the reverse stock split were and will be rounded up to the nearest whole number. The shares issuable upon the exercise of our outstanding options and warrants, and the exercise prices of such options and warrants, have been adjusted to reflect the reverse stock split. Unless otherwise noted, the share and per share information in this prospectus reflects the reverse stock split.

MIRA Pharmaceuticals, Inc.
CONDENSED BALANCE SHEETS

MARCH 31, 2023 AND DECEMBER 31, 2022

	March 31, 2023 (Unaudited)	December 31, 2022
ASSETS		
Current assets:		
Cash	$ 1,349	$ 350,978
Deferred offering costs	189,688	143,427
Prepaid expenses	60,031	-
Total current assets	251,068	494,405
Operating lease, right of use assets	146,512	164,910
Related party operating lease, right of use assets	-	198,759
Total assets	**$ 397,580**	**$ 858,074**
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Trade accounts payable and accrued liabilities	$ 918,618	$ 811,738
Related party accounts payable	185,786	116,350
Related party line of credit	219,542	133,062
Related party accrued interest	36,640	34,987
Advances from affiliates	685,458	-
Current portion of operating lease liabilities	72,806	75,143
Related party current portion of operating lease liabilities	-	198,759
Total current liabilities	2,118,850	1,370,039
Non-current operating lease liabilities	68,206	84,267
Total liabilities	2,187,056	1,454,306
Stockholders' Deficit		
Preferred Stock, $0.0001 par value, 10,000,000 shares authorized and none issued or outstanding.	-	-
Common Stock, $0.0001 par value; 100,000,000 shares authorized, 13,313,000 issued and outstanding at March 31, 2023 and December 31, 2022.	6,657	6,657
Additional paid-in capital	8,847,630	8,699,830
Accumulated deficit	(10,643,763)	(9,302,719)
Total stockholders' deficit	(1,789,476)	(596,232)
Total liabilities and stockholders' deficit	**$ 397,580**	**$ 858,074**

MIRA Pharmaceuticals, Inc.
CONDENSED STATEMENTS OF OPERATIONS (UNAUDITED)

THREE MONTHS ENDED MARCH 31, 2023 AND MARCH 31, 2022

	Three months ended March 31, 2023	2022
Revenues	$ -	$ -
Operating costs:		
General and administrative expenses	614,235	617,234
Related party travel costs	453,550	374,900
Research and development expenses	271,606	479,050
Total operating costs	1,339,391	1,471,184
Interest expense	(1,653)	(3,862)
Net loss	**$ (1,341,044)**	**$ (1,475,046)**

MIRA Pharmaceuticals, Inc.
CONDENSED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT) (UNAUDITED)

THREE MONTHS ENDED MARCH 31, 2023 AND MARCH 31, 2022

	Common Stock		Additional Paid-In	Stock Subscription	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Receivable	Deficit	Equity
Balances, January 1, 2022	12,673,800	$ 6,337	$ 4,499,550	$ -	$ (2,244,529)	$ 2,261,358
Sale of common stock	102,200	201	1,718,799	135,000)	-	1,584,000
Net loss	-	-	-	-	(1,475,046)	(1,475,046)
Balances, March 31, 2022	**13,076,000**	**$ 6,538**	**$ 6,218,349**	**$ (135,000)**	**$ (3,719,575)**	**$ 2,370,312**

	Common Stock		Additional Paid-In	Stock Subscription	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Receivable	Deficit	Deficit
Balances, January 1, 2023	13,313,000	$ 6,657	$ 8,699,830	$ -	$ (9,302,719)	$ (596,232)
Stock-based compensation	-	-	147,800	-	-	147,800
Net loss	-	-	-	-	(1,341,044)	(1,341,044)
Balances, March 31, 2023	**13,313,000**	**$ 6,657**	**$ 8,847,630**	**$ -**	**$ (10,643,763)**	**$ (1,789,476)**

MIRA Pharmaceuticals, Inc.
CONDENSED STATEMENTS OF CASH FLOWS (UNAUDITED)

THREE MONTHS ENDED MARCH 31, 2023 AND MARCH 31, 2022

	Three months ended March 31,	
	2023	2022
Cash flows from Operating activities		
Net loss	$ (1,341,044)	$ (1,475,046)
Adjustments to reconcile net loss to net cash from operations		
Non-cash interest expense	1,653	3,861
Stock-based compensation expense	147,800	-
Change in operating assets and liabilities:		
Right of use lease, net	-	(5,500)
Accounts payable and accrued expenses	176,316	(565,870)
Prepaid expenses	(60,031)	-
Net cash flows used in operating activities	(1,075,306)	(2,042,555)
Financing activities:		
Advances from (to) affiliates	685,458	(178,236)
Payment of deferred offering costs	(46,261)	-
Net borrowings (repayments) under related party line of credit	86,480	(50,000)
Proceeds from sale of common stock, less offering costs	-	1,584,000
Net cash flows provided by financing activities	725,677	1,355,764
Net change in cash	(349,629)	(686,791)
Cash, beginning of period	350,978	2,809,552
Cash, end of period	**$ 1,349**	**$ 2,122,761**
Cash paid for interest	-	-

MIRA Pharmaceuticals, Inc.
NOTES TO THE FINANCIAL STATEMENTS

MARCH 31, 2023 (UNAUDITED), AND DECEMBER 31, 2022

Note 1. Description of business and summary of significant accounting policies:

Overview

MIRA Pharmaceuticals, Inc. ("MIRA" or the "Company" and formerly known as MIRA1a Therapeutics, Inc.) was formed in September 2020 and is a Florida-based clinical development stage biopharmaceutical company that is developing its product candidate, MIRA1a, as a synthetic cannabinoid analog for treating anxiety and chronic pain by targeting the cannabinoid type 1 and type 2 (CB1 and CB2) receptors.

Substantive operations began in late 2020 and the Company's Investigative New Drug application is anticipated to be filed with the U.S. Food and Drug Administration ("FDA") end of first quarter 2024. The Company owns U.S. Patent 10,787,675 B2, titled "Purified Synthetic Marijuana and Methods of Treatment by Administering Same," which covers the MIRA1a compound as a new molecular entity as well as pharmaceutical formulations of the compound and methods of treating Alzheimer's disease, anxiety, depression, and addictions. Foreign patent applications covering MIRA1a, and its therapeutic uses are pending in Australia, Canada, China, Europe, Israel, Japan, and South Korea.

The accounting and reporting policies of the Company conform to accounting principles generally accepted in the United States of America ("GAAP").

As used herein, the Company's Common Stock, par value $0.0001 per share, is referred to as the "Common Stock" and the Company's preferred stock, par value $0.0001 per share, is referred to as the "Preferred Stock".

Pending transactions

The Company is in the process of preparing for an initial public offering ("IPO") and expects to be listed under the NASDAQ symbol "MIRA." The transaction is expected to be complete in the second half of 2023. The Company incurred $0.05 million and $0.04 million of legal costs, during the three months ended March 31, 2023 and the year ended December 31, 2022, respectively, associated with the offering, which have been recorded as deferred offering costs in the accompanying balance sheets. These deferred offering costs will be derecognized as a reduction in offering proceeds when the offering closes. However, there can be no guarantees that the Company will be successful in completing the proposed transaction and ultimately listing on the NASDAQ.

Income taxes

The Company is taxed as a C corporation. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amount of existing assets and liabilities and their respective tax bases. Deferred tax assets are recognized for temporary differences that will result in deductible amounts in future years and for loss carryovers. A valuation allowance is recognized regarding deferred tax assets, if any, if it is more likely than not that some portion of the deferred tax asset will not be realized.

Research and development expenses

Research and development costs are expensed in the period in which they are incurred and include the expenses paid to third parties, such as contract research organizations and consultants, who conduct research and development activities on behalf of the Company.

Leases

The Company accounts for leases under the provisions of FASB ASC Topic 842, "*Leases*", which requires the Company to recognize right-to-use (ROU) assets and lease liabilities for operating leases on the balance sheet.

Use of estimates

The preparation of financial statements in accordance with generally accepted accounting principles in the United States of America requires the Company's management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results may differ from such estimates and such differences could be material.

Cash

The Company maintains cash balances with financial institutions that management believes are of high credit quality. The Company's cash account at times may exceed federally insured limits. The Company has not experienced any losses in such accounts. The Company believes it is not exposed to any significant credit risk from its cash account.

Stock-based compensation

The Company accounts for stock-based compensation under the provisions of FASB ASC 718, "*Compensation - Stock Compensation*", which requires the measurement and recognition of compensation expense for all stock-based awards made to employees, directors and consultants based on estimated fair values on the grant date. The Company estimates the fair value of stock-based awards on the date of grant using the Black-Scholes model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods using the straight-line method. The Company has elected to account for forfeiture of stock-based awards as they occur.

Note 2. Liquidity and capital resources:

As of March 31, 2023, the Company had cash of approximately $0.001 million. The Company used approximately $1.1 million of cash in operations during the three months ended March 31, 2023 and had stockholders' deficit of approximately $1.8 million, versus stockholders' deficit of approximately $0.6 million at December 31, 2022.

Historically, the Company has been primarily engaged in developing MIRA1a. During these activities, the Company sustained substantial losses. The Company's ability to fund ongoing operations and future clinical trials required for FDA approval is dependent on the Company's ability to obtain significant additional external funding in the near term. Since inception, the Company financed its operations through the sale of Common Stock and related party financings. See Note 4 for details of a related party line of credit established in 2021. Additional sources of financing may be sought by the Company. However, there can be no assurance that any fundraising will be achieved on commercially reasonable terms, if at all.

The Company expects to be able to fund operations through the anticipated IPO, or through the second quarter of 2024, with available borrowings on the related party line of credit (Note 4). Should actual cash expenditures exceed management's budget, the Company may be forced to curtail operations along with implementing other cost-saving measures, such as a reduction in staff, reducing the use of outside professional service providers, or significantly modifying or delaying the development of the Company's product candidates.

Note 3. License agreement, related party:

On April 28, 2022, and subsequently amended and restated on April 20, 2023 (the "Effective Date"), the Company and MyMD Pharmaceuticals, Inc. ("MYMD") entered into a non-exclusive, royalty-free license (the "Agreement") to use MYMD's Supera-CBD as a synthetic intermediate in the manufacture of MIRA1a for research and development activities relating to the Company's planned pre-clinical and clinical studies.

This Agreement will be in effect from the Effective Date and continue for one year unless terminated earlier. The term of agreement may be extended by mutual agreement of the parties for an additional period that is reasonably necessary to complete the manufacture of quantities of MIRA1a needed for pre-clinical or clinical studies.

Either party may terminate this Agreement without cause upon forty-five (45) calendar days prior written notice to the other Party.

The Company and MYMD have similar members of the Board, as well as officers from the respective companies.

Note 4. Line of credit, related party:

In May 2021, the Company entered into a revolving credit facility which allows for borrowings of up to $5 million from Starwood Trust, a shareholder of the Company. The facility has an initial term of 24 months (extended to 36 months in March 2023), with a new maturity date of May 10, 2024, at which time all outstanding borrowings and

accrued interest, if any, are due in full. Borrowings accrue interest at a rate of 5% per annum.

In April 2023, the Company entered into a Promissory Note and Loan Agreement with the Bay Shore Trust, a trust established by a shareholder of the Company. Under this Promissory Note and Loan Agreement (the "Bay Shore Note"), the Company has the right to borrow up to an aggregate of $5 million from the Bay Shore Trust at any time up to the second anniversary of the issuance of the Bay Shore Note or, if earlier, upon the completion of the Company's IPO. The Company's right to borrow funds under the Bay Shore Note is subject to the absence of a material adverse change in the Company's assets, operations, or prospects. The Bay Share Note, together with accrued interest, will become due and payable on the second anniversary of the issuance of the note, provided that it may be prepaid at any time without penalty. The Bay Shore Note will accrue interest at a rate equal 7% per annum, simple interest, during the first year that the note is outstanding and 10% per annum, simple interest, thereafter. The Bay Shore Note is unsecured.

The Bay Shore Note replaced the revolving credit facility that the Company entered into with Starwood Trust, a separate trust established by a shareholder of the Company, in May 2021 and pursuant to which the Company had an outstanding principal balance of $0.2 million as of the date of the Bay Shore Note (which outstanding balance was retired with an advance under the Bay Shore Note).

In consideration of the loan facility provided by the Bay Shore Trust, in April 2023, the Company issued to the Bay Shore Trust a common stock purchase warrant giving the Bay Shore Trust the right to purchase up to 5,000,000 shares of common stock at an exercise price of $1.00 per share, which warrant will expire five years after the date of grant. Pursuant to a registration rights agreement, the Company has granted to Bay Shore Trust the right to require the Company, at any time after one year following the Company's IPO, to register for resale the shares issuable upon the exercise of the warrant, with such registration rights being in the form of demand and "piggyback" registration rights that are subject to customary limitations and restrictions.

Note 5. Related party transactions:

Advances from affiliates – During the three months ended March 31, 2023, the Company received working capital advances from a company under common control. These advances are due on demand and are non-interest bearing.

Related party accounts payable – Amounts due to related parties as of March 31, 2023 and December 31, 2022, are recorded as Accounts payable related parties, in the accompanying balance sheets.

Travel expenses – In April 2021, the Company entered into an airplane lease with an entity under common control that the Company incurs approximately $0.05 million of lease charges per month. The lease was renewable, at the Company's discretion, for an additional one to three years, however, the Company terminated the lease at March 31, 2023, without any penalties. The Company may continue to incur related party travel-related expenses as they occur, which will be recorded in Related Party Travel Costs, in the condensed consolidated statement of operations. During the three months ended March 31, 2023, the Company incurred $0.5 million, for travel-related expenses to the related party for monthly rental charges and airplane-related expenses.

License agreement - See Note 3.

Line of credit - See Note 4.

Lease and lease reimbursements - See Note 6.

Note 6. Lease:

The Company's corporate headquarters is in Baltimore, Maryland, which includes a lease for office space. This lease began in November 2021 and was amended in January 2023. This space is approximately 550 square feet and has a remaining base rent of $0.01 million payable through November 2023. Rent is payable in monthly installments and is subject to yearly price increases.

The Company also has leased an office in Tampa, Florida, for its finance and general operations, which began in March 2022 for 37 months. This space is approximately 2,300 square feet and has a remaining base rent of $0.14 million payable through March 2025. Rent is payable in monthly installments and is subject to yearly price increases. The Company splits the monthly rent and variable costs with two related parties. As such, the Company will be reimbursed each month for 2/3^{rds} of the rent expense, which will be recorded as a reduction in lease expenses.

The Company also leased a jet (Note 5) from a related party, which lease the Company terminated on March 31 2023.

Variable lease costs

Variable lease costs primarily include utilities, property taxes, and other operating costs that are passed on from the lessor. Variable lease costs related to the aircraft include usage expenses, which includes pilot expenses, jet fuel and general flight expenses.

Amounts disclosed during the three months ended March 31, 2022 are composed of the aircraft usage only.

The components of lease expense were as follows:

	Three months ended March 31,	
	2023	**2022**
Lease Costs		
Operating Lease Cost		
Operating Lease	$ 171,724	$ 150,000
Variable Lease Costs	306,282	224,900
Total Lease Cost	$ 478,006	$ 374,900

Amounts disclosed during the three months ended March 31, 2022 are composed of the aircraft usage only.

Supplemental cash flow information related to leases were as follows:

	Three months ended March 31,	
	2023	**2022**
Other Lease Information		
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$ 162,276	$ 374,900

	Three months ended March 31,	
	2023	2022
Lease Term and Discount		
Weighted Average remaining lease term	0.53 years	3 years
Weighted Average discount rate	5.0%	5.0%

Maturity of Lease Liabilities

Future minimum lease payments under non-cancellable leases as of March 31, 2023 were as follows:

Maturity of Lease Liabilities

	March 31, 2023
Remainder of 2023	$ 60,819
2024	69,309
2025	17,444
Total Lease payments	147,573
Less: Interest	(6,561)
Present Value of Lease Liabilities	$ 141,012

On April 1, 2023 the Company entered into an Agreement For Shared Lease Costs with MIRALOGX, LLC, (the "Shared Agreement") which is a related party. Under the Shared Agreement, the Company agrees to make monthly contributions or payments in accordance with its monthly use of shared aircraft toward rent payments.

Note 7. Stockholders' equity:

Capital stock

The Company has the authority to issue 110,000,000 shares of capital stock, consisting of 100,000,000 shares of Common Stock and 10,000,000 shares of undesignated preferred stock, whose rights and privileges will be defined by the Board of Directors when a series of preferred stock is designated.

Stock-based compensation

The Company may grant options under its 2022 Omnibus Incentive Plan, ("2022 Omnibus Plan"). The 2022 Omnibus Plan authorizes the grant of incentive stock options, within the meaning of Section 422 of the Internal Revenue Code, to the Company's employees and any of its parent and subsidiary corporations' employees, and for the grant of nonstatutory stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares to the Company's employees, directors, and consultants and any of its future subsidiary corporations' employees and consultants.

The fair value of each option award is estimated on the grant date using the Black-Scholes valuation model that uses assumptions for expected volatility, expected dividends, expected term, and the risk-free interest rate.

Expected price volatility is based on the historical volatilities of a peer group as the Company does not have a trading history for its shares. Industry peers consist of several public companies in the biotech industry similar to the Company in size, stage of life cycle and product indications. The Company intends to continue to consistently apply this process using the same or similar public companies until a sufficient amount of historical information regarding the volatility of the Company's own stock price becomes available, or unless circumstances change such that the identified companies are no longer similar to the Company, in which case, more suitable companies whose share prices are publicly available would be utilized in the calculation.

Expected term of options granted is derived using the "simplified method" which computes expected term as the average of the sum of the vesting term plus contract term. The risk-free rate is based on the 5-year U.S. Treasury yield curve in effect at the time of grant.

There were no grants made during the three months ended March 31, 2023.

	Number of shares	Weighted average exercise price per share	Aggregate intrinsic value
Outstanding as January 1, 2023	750,000	$ 5.00	
Options granted	-	-	
Outstanding as March 31, 2023	750,000	$ 5.00	-

As of March 31, 2023, options exercisable totaled 280,000. There are approximately $1.3 million of unrecognized compensation costs related to non-vested share-based compensation awards, which will be expensed through 2025.

In April 2023, a total of 400,000 options to purchase Common Stock, with an aggregate fair market value of approximately $1.5 million were granted to the Company's Board of Directors, executive officers and management, and a consultant of the Company. Options have a term of 10 years from the grant date. These option vest as follows: (i) Board of Director options vest 100% on date of grant and (ii) executive officer and management, employee and consultant options vest 33.3% on date of grant and the remaining vest ratably over a two-year period.

Note 8 – Subsequent events:

The Company has evaluated subsequent events through May 23, 2023, in connection with the preparation of these financial statements, which is the date the financial statements were available to be issued.

Employment Agreements

Erez Aminov

On April 28, 2023, the Company entered into an employment agreement with Mr. Aminov pursuant to which Mr. Aminov will serve as the Company's Chief Executive Officer on a part-time basis. Mr. Aminov's employment agreement provides that his employment will be on an at-will basis and can be terminated by either Mr. Aminov or the

company at any time and for any reason. Under the agreement, Mr. Aminov will receive an initial base salary of $0.11 million per year. In the event that Mr. Aminov's employment is terminated by the company without "Cause" or is terminated by Mr. Aminov for "Good Reason", Mr. Aminov will be entitled to severance compensation in the form of salary continuation for a period of three months (subject to Mr. Aminov executing and delivering a customary general release in favor of the company).

Michelle Yanez

On April 28, 2023, the company entered into an employment agreement with Ms. Yanez pursuant to which Ms. Yanez will serve as the Company's Chief Financial Officer on a full-time basis. Ms. Yanez's employment agreement provides that her employment will be on an at-will basis and can be terminated by either Ms. Yanez or the company at any time and for any reason. Under the agreement, Ms. Yanez will receive an initial base salary of $0.17 million per year. In the event that her employment is terminated by the company without "Cause" or is terminated by Ms. Yanez for "Good Reason", Ms. Yanez will be entitled to severance compensation in the form of salary continuation for a period of three months (subject to Ms. Yanez executing and delivering a customary general release in favor of the company).

Chris Chapman

On April 28, 2023, the Company entered into an employment agreement with Dr. Chapman pursuant to which Dr. Chapman will serve as the Company's Executive Chairman. Dr. Chapman's employment agreement provides that his employment will be on a part-time basis whereby Dr. Chapman will devote 50% of his full business time and effort to the business and affairs of the company, and it further provides that such employment will be on an at-will basis and can be terminated by either Dr. Chapman or the company at any time and for any reason. Under the agreement, Dr. Chapman will receive an initial base salary of $0.15 million per year. In the event that Dr. Chapman's employment is terminated by the company without "Cause" or is terminated by Dr. Chapman for "Good Reason", Dr. Chapman will be entitled to severance compensation in the form of salary continuation for a period of three months (subject to Dr. Chapman executing and delivering a customary general release in favor of the company).

Consulting Relationship with Adam Kaplin

Dr. Kaplin is a paid non-employee consultant to the company under which he provides services and consultation on an as-needed basis. Dr. Kaplin is paid $9,166 per month for his services. The Company does not currently have a written consulting agreement with Dr. Kaplin.

Investor Relations

MZ Group

On May 4, 2023, the Company entered into an Agreement ("MZ Agreement") with MZHCI, LLC a MZ Group Company "MZ" for MZ to provide investor relations advisory services. The MZ Agreement is for a term of six (6) months, provided however that if the IPO has not occurred by the three (3) month anniversary of the MZ Agreement, the Company may pause services upon seven (7) day written notice to consultant.

After the initial six (6) month term, the MZ Agreement will automatically renew every (6) months thereafter unless either party to the other delivers written notice of termination at least sixty (60) days-notice prior to the end of the then current MZ Agreement.

MZ will receive compensation of $0.01 million per month pre-IPO and $0.15 million per month post-IPO. The Company will also issue to MZ $0.25 million worth of restricted common stock valued at the IPO price within ten (10) days after the IPO.

Reverse Stock Split

Effective June 28, 2023, the Company completed a reverse stock split of its outstanding common stock upon the filing of the Company's Third Amended and Restated Articles of Incorporation with the Florida Secretary of State. No fractional shares were or will be issued in connection with the reverse stock split, and all such fractional shares resulting from the reverse stock split were and will be rounded up to the nearest whole number. The shares issuable upon the exercise of our outstanding options and warrants, and the exercise prices of such options and warrants, have been adjusted to reflect the reverse stock split. Unless otherwise noted, the share and per share information in this prospectus reflects the reverse stock split.

Shares
Common Stock

MIRA Pharmaceuticals, Inc.

Prospectus

Kingswood Investments
division of Kingswood Capital Partners, LLC

Until , 2023 (the 25th day after the date of this prospectus), all dealers that effect transactions in these securities, whether or not participating in this offering, may be

required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

, 2023

[Alternate Page for Resale Prospectus]

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell, and it is not soliciting an offer to buy, these securities in any state where the offer or sale is not permitted.

Subject to completion, dated , 2023

PROSPECTUS

[●] Shares

of Common Stock

MIRA PHARMACEUTICALS, INC.

This prospectus relates to [●] shares of common stock of MIRA Pharmaceuticals, Inc. that may be sold from time to time by the selling stockholders named in this prospectus.

The selling stockholders may sell shares from time to time in the open market, through privately negotiated transactions or a combination of these methods, at market prices prevailing at the time of sale or at negotiated prices. The Selling Securityholder may offer shares to or through underwriters, dealers or other agents, directly to investors or through any other manner permitted by law, on a continued or delayed basis. We will bear all costs, expenses and fees in connection with the registration of the shares offered by this prospectus, and the Selling Securityholder will bear all incremental selling expenses, including commissions and discounts, brokerage fees and other similar selling expenses they incur in sale of the shares. See "Plan of Distribution".

By separate prospectus (the "IPO Prospectus"), we have registered an aggregate of [●] shares of common stock which we are offering for sale to the public through our underwriters, excluding any shares issuable upon the underwriters' over-allotment option.

The [●] shares of common stock offered by the selling stockholders is defined herein as the "Resale Shares."

We have applied to list our shares of common stock for trading on the Nasdaq Capital Market, subject to official notice of issuance, under the symbol "MIRA." No assurance can be given that our application will be approved. The consummation of this offering is conditioned on obtaining Nasdaq approval.

We are an "emerging growth company" as defined in the federal securities laws, and, as such, are subject to reduced public company reporting requirements. See "Prospectus Summary — Implications of Being an Emerging Growth Company".

Investing in our securities is highly speculative and involves a significant degree of risk. See "*Risk Factors*" beginning on page [13] of this prospectus for a discussion of information that should be considered before making a decision to purchase our securities.

Sales of the shares of our common stock registered in this prospectus and the IPO Prospectus will result in two offerings taking place concurrently, which might affect price, demand, and liquidity of our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is [●], 2023.

[Alternate Page for Resale Prospectus]

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of the Resale Shares.

The selling stockholders will pay any underwriting discounts and commissions and expenses incurred by them for brokerage, accounting, tax or legal services or any other expenses incurred by them in disposing of the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees and fees and expenses of our counsel and our accountants.

[Alternate Page for Resale Prospectus]

SELLING STOCKHOLDERS

This prospectus covers the possible resale by the selling stockholders identified in the table below of up to [●] shares of our common stock (the "Resale Shares"). The transactions by which the selling stockholders acquired their securities from us were exempt under the registration provisions of the Securities Act.

The selling stockholders may sell some, all, or none of the Resale Shares. Unless otherwise indicated in the footnotes to the table below, no selling stockholder has had any material relationship with us or any of our affiliates within the past three years other than as a security holder.

We have prepared the following table based on written representations and information furnished to us by or on behalf of the selling stockholders. Unless otherwise indicated in

the footnotes to the table below, we believe that (i) none of the selling stockholders are broker-dealers or affiliates of broker-dealers, and (ii) no selling stockholder has direct or indirect agreements or understandings with any person to distribute their Resale Shares. To the extent any selling stockholder identified below is, or is affiliated with, a broker-dealer, it could be deemed, individually, but not severally, to be an "underwriter" within the meaning of the Securities Act. Information about the selling stockholders may change over time.

The table below lists the selling stockholders and other information regarding the beneficial ownership of the shares of common stock by each of the selling stockholders. The second column lists the number of shares of common stock beneficially owned by each selling stockholder, based on its ownership of Resale Shares as of June 28, 2023.

The third column lists the shares of common stock being offered by this prospectus by the selling stockholders.

The fourth column assumes the sale of all of the shares offered by the selling stockholders pursuant to this prospectus.

Selling Stockholder	Number of Shares Beneficially Owned Before Offering	Percentage of Shares Beneficially Owned Before this Offering	Number of Shares Being Offered	Number of Shares Beneficially Owned After Offering	Percentage of Shares Beneficially Owned After Offering (%)
Samuel Duffey (2)	660,000	4.96%	660,000	-	*
Dan Dearborn (3)	660,000	4.96%	660,000	-	*
Ruth Spira (4)	240,000	1.80%	660,000	-	*

*Less than 1%

(1) Applicable percentage ownership after to this offering is based on 13,313,000 shares of common stock deemed to be outstanding as of June 28, 2023, after giving effect to the Company's 1-for-5 reverse stock split of its outstanding common stock effective as of June 28, 2023.
(2) Consists of 660,000 shares held directly by the Rachel Jean Williams 2020 Irrevocable Trust. As sole trustee of the Rachel Jean Williams 2020 Irrevocable Trust, Mr. Duffey makes voting and investment decisions on behalf of such trust. Accordingly, Mr. Duffey may be deemed to have beneficial ownership of the securities held by such trust.
(3) Consists of 660,000 shares held directly by the Francis Murray Williams 2020 Irrevocable Trust. As sole trustee of the Francis Murray Williams 2020 Irrevocable Trust, Mr. Dearborn makes voting and investment decisions on behalf of such trust. Accordingly, Mr. Dearborn may be deemed to have beneficial ownership of the securities held by such trust.
(4) Consists of 240,000 shares held directly by the 2023 YAE Irrevocable Trust. As sole trustee of the 2023 YAE Irrevocable Trust, Ms. Spira makes voting and investment decisions on behalf of such trust. Accordingly, Ms. Spira may be deemed to have beneficial ownership of the securities held by such trust.

[Alternate Page for Resale Prospectus]
PLAN OF DISTRIBUTION

We are registering the Resale Shares to permit the resale of the Resale Shares by the selling stockholders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale of the Resale Shares. We will pay all expenses (other than discounts, commissions, and transfer taxes, if any) relating to the registration of the Resale Shares in the registration statement of which this prospectus forms a part.

The selling stockholders may sell all or a portion of the Resale Shares beneficially owned by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers, or agents. If the Resale Shares are sold through underwriters or broker-dealers, the selling stockholders will be responsible for any underwriter discounts or commissions and any applicable transfer taxes. The Resale Shares may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions,

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales;
- in transactions through broker-dealers that agree with the selling stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law

The selling stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus. The selling stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of

a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

In connection with the sale of the securities or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The selling stockholders may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each selling stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

[Alternate Page for Resale Prospectus]
LEGAL MATTERS

The validity of the common stock covered by this prospectus will be passed upon by Foley & Lardner LLP.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth all the costs and expenses, other than underwriting discounts and commissions, to be paid by us in connection with the sale of the shares of common stock being registered hereby. All amounts shown below are estimates, except the SEC registration fee, the FINRA filing fee and the Nasdaq listing fee:

	Amount
SEC registration fee	$ 1,873.40
FINRA filing fee	2,225.00
Nasdaq listing fee	*
Printing expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous expenses	*
Total	$ *

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers

MIRA Pharmaceuticals, Inc. is incorporated under the laws of the state of Florida. Section 607.0831 of the Florida Business Corporation Act, as amended (the "FBCA"), provides that a director is not personally liable for monetary damages to the corporation or any other person for any statement, vote, decision to take or not to take action, or any failure to take any action, as a director, unless (1) the director breached or failed to perform his or her duties as a director and (2) the director's breach of, or failure to perform, those duties constitutes (a) a violation of the criminal law, unless the director had reasonable cause to believe his or her conduct was lawful or had no reasonable cause to believe his or her conduct was unlawful, (b) a transaction from which the director derived an improper personal benefit, either directly or indirectly, (c) a circumstance under which the liability provisions of Section 607.0834 of the FBCA are applicable, (d) in a proceeding by or in the right of the corporation to procure a judgment in its favor or by or in the right of a shareholder, conscious disregard for the best interest of the corporation, or willful or intentional misconduct, or (e) in a proceeding by or in the right of someone other than the corporation or a shareholder, recklessness or an act or omission which was committed in bad faith or with malicious purpose or in a manner exhibiting wanton and willful disregard of human rights, safety, or property. A judgment or other final adjudication against a director in any criminal proceeding for a violation of the criminal law estops that director from contesting the fact that his or her breach, or failure to perform, constitutes a violation of the criminal law; but does not estop the director from establishing that he or she had reasonable cause to believe that his or her conduct was lawful or had no reasonable cause to believe that his or her conduct was unlawful.

Under Section 607.0851 of the FBCA, a corporation has power to indemnify any person who is a party to any proceeding (other than an action by, or in the right of the corporation), because he or she is or was a director or officer of the corporation against liability incurred in connection with such proceeding, including any appeal thereof, if he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The termination of any proceeding by judgment, order, settlement or conviction or upon a plea of nolo contendere or its equivalent shall not, of itself, create a presumption that the person did not act in good faith and in a manner which he or she reasonably believed to be in, or not opposed to, the best interests of the corporation or, with respect to any criminal action or proceeding, has reasonable cause to believe that his or her conduct was unlawful.

For purposes of the indemnification provisions of the FBCA, "director" or "officer" means an individual who is or was a director or officer, respectively, of a corporation or who, while a director or officer of the corporation, is or was serving at the corporation's request as a director or officer, manager, partner, trustee, employee, or agent of another domestic or foreign corporation, limited liability company, partnership, joint venture, trust, employee benefit plan, or another enterprise or entity and the terms include, unless the context otherwise requires, the estate, heirs, executors, administrators, and personal representatives of a director or officer.

In addition, under Section 607.0851 of the FBCA, a corporation has the power to indemnify any person, who was or is a party to any proceeding by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person is or was a director or officer, against expenses and amounts paid in settlement not exceeding, in the judgment of the board of directors, the estimated expense of litigating the proceeding to conclusion, actually and reasonably incurred in connection with the defense or settlement of such proceeding, including any appeal thereof. Such indemnification shall be authorized if such person acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification shall be made under this subsection in respect of any claim,

issue, or matter as to which such person shall have been adjudged to be liable unless, and only to the extent that, the court in which such proceeding was brought, or any other court of competent jurisdiction, shall determine upon application that, despite the adjudication of liability but in view of all circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which such court shall deem proper.

Section 607.0852 of the FBCA provides that a corporation must indemnify an individual who is or was a director or officer who was wholly successful, on the merits or otherwise, in the defense of any proceeding to which the individual was a party because he or she is or was a director or officer of the corporation against expenses incurred by the individual in connection with the proceeding.

Section 607.0853 of the FBCA provides that a corporation may, before final disposition of a proceeding, advance funds to pay for or reimburse expenses incurred in connection with the proceeding by an individual who is a party to the proceeding because that individual is or was a director or an officer if the director or officer delivers to the corporation a signed written undertaking of the director or officer to repay any funds advanced if (a) the director or officer is not entitled to mandatory indemnification under Section 607.0852; and (b) it is ultimately determined under Section 607.0854 or Section 607.0855 (as described below) that the director or officer has not met the relevant standard of conduct described in Section 607.0851 or the director or officer is not entitled to indemnification under Section 607.0859 (as described below).

Section 607.0854 of the FBCA provides that, unless the corporation's articles of incorporation provide otherwise, notwithstanding the failure of a corporation to provide indemnification, and despite any contrary determination of the board of directors or of the shareholders in the specific case, a director or officer of the corporation who is a party to a proceeding because he or she is or was a director or officer may apply for indemnification or an advance for expenses, or both, to a court having jurisdiction over the corporation which is conducting the proceeding, or to a circuit court of competent jurisdiction. Our amended and restated articles of incorporation do not provide any such exclusion. After receipt of an application and after giving any notice it considers necessary, the court may order indemnification or advancement of expenses upon certain determinations of the court.

Section 607.0855 of the FBCA provides that, unless ordered by a court under Section 607.0854, a corporation may not indemnify a director or officer under Section 607.0851 unless authorized for a specific proceeding after a determination has been made that indemnification is permissible because the director or officer has met the relevant standard of conduct set forth in Section 607.0851.

Section 607.0857 of the FBCA also provides that a corporation shall have the power to purchase and maintain insurance on behalf of and for the benefit of any person who is or was a director or officer of the corporation against any liability asserted against the person and incurred by him or her in any such capacity or arising out of his or her status as such, whether or not the corporation would have the power to indemnify or advance expenses to the individual against such liability under the provisions of Section 607.0857.

Section 607.0858 of the FBCA provides that the indemnification provided pursuant to Section 607.0851 and Section 607.0852, and the advancement of expenses provided pursuant to Section 607.0853, are not exclusive. A corporation may, by a provision in its articles of incorporation, bylaws or any agreement, or by vote of shareholders or disinterested directors, or otherwise, obligate itself in advance of the act or omission giving rise to a proceeding to provide any other or further indemnification or advancement of expenses to any of its directors or officers.

Section 607.0859 of the FBCA provides that, unless ordered by a court under the provisions of Section 607.0854 of the FBCA, a corporation may not indemnify a director or officer under Section 607.0851 or Section 607.0858, or advance expenses to a director or officer under Section 607.0853 or Section 607.0858, if a judgment or other final adjudication establishes that his or her actions, or omissions to act, were material to the cause of action so adjudicated and constitute: (a) willful or intentional misconduct or a conscious disregard for the best interests of the corporation in a proceeding by or in the right of the corporation to procure a judgment in its favor or in a proceeding by or in the right of a shareholder; (b) a transaction in which a director or officer derived an improper personal benefit; (c) a violation of the criminal law, unless the director or officer had reasonable cause to believe his or her conduct was lawful or had no reasonable cause to believe his or her conduct was unlawful; or (d) in the case of a director, a circumstance under which the liability provisions of Section 607.0834 are applicable (relating to unlawful distributions).

Our amended and restated articles of incorporation and bylaws provide that we shall indemnify any and all persons whom it shall have power to indemnify under the FBCA to the fullest extent permitted by law.

The underwriting agreement for this offering will provide that the underwriters indemnify us against certain civil liabilities that may be incurred in connection with this offering, including certain liabilities under the Securities Act of 1933.

We also maintain director and officer liability insurance against certain claims and liabilities which may be made against our former, current or future directors and officers. In addition, we have individual indemnification agreements with our directors.

Item 15. Recent Sales of Unregistered Securities

In the preceding three years, we have issued and sold the following securities that were not registered under the Securities Act:

1. From November 2021 to December 2022, we undertook a private placement solely to accredited investors pursuant to which we issued and sold an aggregate of 7,696,000 shares of our common stock at a price of $1.00 per share, for an aggregate purchase price of approximately $7.7 million to 90 investors.

2. In June 2022 and April 2023, we granted to 16 directors, employees, or other service providers stock options to purchase an aggregate of 5,000,000 shares of our common stock at an exercise price of $1.00 per share pursuant to our 2022 Omnibus Plan.

3. In April 2023, we granted to Bay Shore Trust a warrant to purchase up to 5,000,000 shares of our common stock at an exercise price of $1.00 per share in consideration of making a credit facility available to the Company.

We claimed exemption from registration under the Securities Act of 1933, as amended, or the Securities Act, for the sale and issuance of securities in the transaction described in paragraphs 1 and 3 above by virtue of Section 4(a)(2) and/or Regulation D promulgated thereunder as a transaction not involving any public offering. All the purchasers of unregistered securities for which we relied on Section 4(a)(2) and/or Regulation D represented that they were accredited investors as defined in Rule 501(a) under the Securities Act. We claimed such exemption on the basis that (a) the purchasers in each case represented that they intended to acquire the securities for investment only and not with a view to the distribution thereof and that they either received adequate information about the registrant or had access, through employment or other relationships, to such information and (b) appropriate legends were affixed to the stock certificates issued in such transactions.

We claimed exemption from registration under the Securities Act for the sales and issuances of securities in the transactions described in paragraph 2 above under Section 4(a)(2) of the Securities Act in that such sales and issuances did not involve a public offering or under Rule 701 promulgated under the Securities Act, in that they were offered and sold either pursuant to written compensatory plans or pursuant to a written contract relating to compensation, as provided by Rule 701.

Item 16. Exhibits and Financial Statement Schedules

(A) *Exhibits*.

INDEX TO EXHIBITS

Exhibit No.	Exhibit Description
1.1*	Form of Underwriting Agreement
3.1	Third Amended and Restated Articles of Incorporation of MIRA Pharmaceuticals, Inc.
3.2	Current Bylaws of MIRA Pharmaceuticals, Inc.
3.3*	Amended and Restated Bylaws of MIRA Pharmaceuticals, Inc., to be in effect upon the completion of this offering.
4.1*	Specimen certificate evidencing shares of common stock
4.2*	Form of Representative's Warrant
4.3	Common Stock Purchase Warrant, dated April 28, 2023, between MIRA Pharmaceuticals, Inc. and Bay Shore Trust
5.1*	Opinion of Foley & Lardner LLP
10.1+	2022 Omnibus Incentive Plan, as amended and restated.
10.2+	Form of Stock Option Award under 2022 Omnibus Incentive Plan
10.3	Form of Indemnification Agreement
10.4	Confirmatory Patent Assignment and Royalty Agreement, dated November 1, 2021, between SRQ Patent Holdings II, LLC and MIRA Pharmaceuticals, Inc.
10.5	Amended and Restated Limited License Agreement, dated June 27, 2022, between MIRA Pharmaceuticals, Inc. and MyMD Pharmaceuticals, Inc.
10.6	Amendment No. 1, dated April 20, 2023, to Amended and Restated Limited License Agreement between MIRA Pharmaceuticals, Inc. and MyMD Pharmaceuticals, Inc.
10.7+	Employment Agreement, dated April 28, 2023, between MIRA Pharmaceuticals, Inc. and Erez Aminov
10.8+	Employment Agreement, dated April 28, 2023, between MIRA Pharmaceuticals, Inc. and Michele Yanez
10.9+	Employment Agreement between MIRA Pharmaceuticals, Inc. and Chris Chapman to become effective upon the completion of this offering
10.10	Promissory Note and Loan Agreement, dated April 28, 2023, between MIRA Pharmaceuticals, Inc. and Bay Shore Trust
10.11	Registration Rights Agreement, dated April 28, 2023, between MIRA Pharmaceuticals, Inc. and Bay Shore Trust
14.1	Code of Business Conduct and Ethics
21.1	List of Subsidiaries of Registrant
23.1	Consent of Cherry Bekaert LLP
23.2*	Consent of Foley & Lardner LLP (included in Exhibit 5.1)
24.1	Power of Attorney (included on signature page)
99.1	Audit Committee Charter
99.2	Nominating and Corporate Governance Committee Charter
99.3	Compensation Committee Charter
99.4	Corporate Governance Guidelines
99.5	Insider Trading Policy
99.6	Related Person Transaction Policy and Procedures
107	Filing Fee Table

* To be filed by amendment.

\+ Denotes management contract or compensatory plan or arrangement.

(B) *Financial Statement Schedules*.

Not applicable.

Item 17. Undertakings

The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933, as amended.

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant

pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Tampa, Florida, on this 29th day of June, 2023.

MIRA PHARMACEUTICALS, INC.

By: */s/ Erez Aminov*
Erez Aminov
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints each of Erez Aminov and Michelle Yanez, and each of them individually, his or her true and lawful attorneys-in-fact and agents, with full powers of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any or all amendments (including post effective amendments) to this registration statement and any subsequent registration statement filed pursuant to Rule 462 under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, and hereby ratifying and confirming all that either of the said attorneys-in-fact and agents, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed below by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Erez Aminov Erez Aminov	Chief Executive Officer (Principal Executive Officer)	June 29, 2023
/s/ Michelle Yanez Michelle Yanez	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	June 29, 2023
/s/ Chris Chapman Chris Chapman	Executive Chairman and Director	June 29, 2023
/s/ Christos Nicholoudis Christos Nicholoudis, Esq.	Director	June 29, 2023
/s/ Dave Vorhoff Dave Vorhoff	Director	June 29, 2023
/s/ Brad Kroenig Brad Kroenig	Director	June 29, 2023
/s/ Talhia Tuck Talhia Tuck	Director	June 29, 2023
/s/ Hugh McColl III Hugh McColl III	Director	June 29, 2023

Exhibit 3.1

THIRD AMENDED AND RESTATED
ARTICLES OF INCORPORATION
OF
MIRA PHARMACEUTICALS, INC.

(Pursuant to Sections 607.1007 and 607.1003
of the Florida Business Corporation Act)

MIRA Pharmaceuticals, Inc., a corporation organized and existing under and by virtue of the provisions of the Florida Business Corporation Act (the "**FBCA**"),

DOES HEREBY CERTIFY:

1. That this Corporation is named MIRA Pharmaceuticals, Inc. (the "**Corporation**") and was originally incorporated in the State of Florida on September 3, 2020, as amended by the Amended and Restated Articles of Incorporation filed with the State of Florida on December 21, 2021, and as further amended and restated by the Second Amended and Restated Articles of Incorporation filed with the State of Florida on September 30, 2022, and that these Third Amended and Restated Articles of Incorporation shall amend, restate and supersede in their entirety any and all prior Second Amended and Restated Articles of Incorporation, Amended and Restated Articles of Incorporation, Articles of Incorporation, and any Articles of Amendment or Certificates of Designation thereto, filed with the State of Florida from the date of the Corporation's original incorporation through the date hereof.

2. That these Third Amended and Restated Articles of Incorporation have been approved by the Board of Directors and shareholders of the Corporation in the manner and by the vote required by the FBCA. These Third Amended and Restated Articles of Incorporation contain amendments that require shareholder approval. These Third Amended and Restated Articles of Incorporation were approved by the shareholders pursuant to a written consent in lieu of a meeting dated June 26, 2023, and the votes cast for the amendments by the shareholders were sufficient for approval.

That the existing Second Amended and Restated Articles of Incorporation of this Corporation have been further amended and restated in their entirety to read as follows:

FIRST: The name of this corporation is MIRA Pharmaceuticals, Inc. (the "**Corporation**").

SECOND: The address of the principal office of the Corporation is 855 N Wolfe Street, Suite 601, Baltimore, Maryland 21205. The mailing address of the Corporation is 855 N Wolfe Street, Suite 601, Baltimore, Maryland 21205. The address of the Corporation's registered office is 900 West Platt Street, Suite #200, in the City of Tampa, County of Hillsborough 33606. The name of the registered agent at such address is James A McNulty.

THIRD: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the Florida Business Corporation Act (the "**FBCA**").

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) One Hundred Million (100,000,000) shares of Common Stock, par value $0.0001 per share ("**Common Stock**"), and (ii) Ten Million (10,000,000) shares of Preferred Stock, par value $0.0001 per share ("**Preferred Stock**").

Effective immediately upon the Effective Time (as defined below), each five (5) shares of the Corporation's Common Stock issued and outstanding immediately prior to the Effective Time shall automatically and without any further action by any shareholder or the Corporation be combined into one (1) validly issued, fully paid and non-assessable share of Common Stock (the "**Reverse Stock Split**"). No fractional shares of Common Stock shall be issued in connection with the Reverse Stock Split. Rather, fractional shares created as a result of the Reverse Stock Split shall be rounded up to the next largest whole number, such that, in lieu of fractional shares, each shareholder who otherwise would be entitled to receive a fractional share of Common Stock as a result of the Reverse Stock Split shall instead be entitled to receive one (1) share of Common Stock. Each certificate that immediately prior to the Effective Time represented shares of Common Stock ("**Old Certificates**") shall thereafter represent that number of shares of Common Stock into which the shares of Common Stock represented by the Old Certificate shall have been combined, subject to the treatment of fractional shares as described above.

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. Dividends and Distributions. Subject to the rights, if any, of the holders of any outstanding shares of Preferred Stock, the Board of Directors of the Corporation may, in its sole discretion, out of funds legally available for the payment of dividends and at such times and in such manner as determined by the Board of Directors, declare and pay dividends or other distributions on the Common Stock.

2. Liquidation Rights. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, after there shall have been paid to or set aside for the holders of Preferred Stock the full preferential amounts, if any, to which they are entitled, the holders of outstanding shares of Common Stock shall be entitled to receive pro rata, according to the number of shares held by each, the remaining net assets of the Corporation available for distribution.

3. Voting Rights. Except as otherwise provided by the FBCA, and except as may be determined by the Board of Directors with respect to Preferred Stock pursuant to Section B of this Article Fourth, only the holders of Common Stock shall be entitled to vote for the election of directors of the Corporation and for all other corporate purposes. Upon any such vote the holders of Common Stock shall, except as otherwise provided by law, be entitled to one vote for each share of Common Stock held by them respectively. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 607.1004 of the FBCA.

B. PREFERRED STOCK

1. Series and Variations Between Series. Pursuant to Section 607.0602 of the FBCA, the Board of Directors of the Corporation is hereby expressly authorized, without the approval of the shareholders of the Corporation, to (a) provide for the classification and reclassification of any unissued shares of Preferred Stock and determine the preferences, limitations, and relative rights thereof and (b) issue Preferred Stock in one or more series, all within the limitations set forth in Section 607.0601 of the FBCA. The authority of the Board of Directors of the Corporation with respect to each series of Preferred Stock shall include, but not be limited to, determination of the following:

(1) the number of shares constituting such series and the distinctive designation of that series;

(2) the dividend rate, if any, on the shares of such series, whether dividends shall be cumulative, and, if so, from which date or dates, and the relative rights of priority, if any, of payment of dividends on shares of that series;

(3) whether such series shall have voting rights, in addition to the voting rights provided by law, and, if so, the terms of such voting rights;

(4) whether such series shall have conversion privileges and, if so, the terms and conditions of conversion, including provision for adjustment of the conversion rate upon such events as the Board of Directors shall determine;

(5) whether or not the shares of such series shall be redeemable, and, if so, the terms and conditions of such redemption, including the date or dates upon or after which they shall be redeemable and the amount per share payable in case of redemption, which amount may vary under different conditions and at different redemption dates;

(6) whether such series shall have a sinking fund for the redemption or purchase of shares of the series, and, if so, the terms and amount of such sinking fund;

(7) the rights of the shares of such series in the event of voluntary or involuntary dissolution or winding up of the Corporation, and the relative rights of priority, if any, of payment of shares of that series; and

(8) any other preferences and relative, participating, optional or other special rights, and qualifications, limitations or restrictions of such series.

C. NO PREEMPTIVE RIGHTS

No holder of shares of any class of capital stock of the Corporation shall have any preferential or preemptive right to subscribe to or acquire (1) unissued or treasury shares of the Corporation of any class, (2) securities of the Corporation convertible into or carrying a right to acquire or subscribe to shares of any class or (3) any other obligations, warrants, rights to subscribe to shares or other securities of the Corporation of any class, in each case whether now or hereafter authorized.

FIFTH: Subject to any additional vote required by these Third Amended and Restated Articles of Incorporation or the bylaws of the Corporation as then in effect (the "Bylaws"), in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

SIXTH: Each director will serve until the next annual meeting at which such director's successor is duly elected and qualified or until such director's earlier death, resignation or removal.

Subject to any additional vote required by these Third Amended and Restated Articles of Incorporation, the number of the directors, the staggering terms of the directors and the classification of the Board of Directors shall be determined in the manner set forth in the Bylaws of the Corporation. Each director shall be entitled to one vote on each matter presented to the Board of Directors.

SEVENTH: Any director may be removed from office, but only for Cause (as defined below) by the affirmative vote of holders of at least a majority of the voting power of the then outstanding shares of stock entitled to vote for the election of directors (or, if a director is elected by a voting group of shareholders, at least a majority of the voting power of the then outstanding shares of stock of the voting group of shareholders that elected the director to be removed). As used herein, "**Cause**" shall exist only if the director whose removal is proposed (1) has been convicted of a felony by a court of competent jurisdiction and such conviction is no longer subject to direct appeal or (2) has been adjudged by a court of competent jurisdiction to be liable for willful misconduct in the performance of his or her duties to the Corporation in a matter which has a material adverse effect on the business of the Corporation and such adjudication is no longer subject to direct appeal.

EIGHTH: Any vacancy occurring in the Board of Directors, including a vacancy created by the removal of a director or an increase in the number of directors, shall be filled by the affirmative vote of a majority of the directors then in office, although less than a quorum of the Board of Directors; provided, however, that if the vacant office was held by a director elected by a voting group of shareholders, only the remaining directors elected by that voting group shall fill the vacancy. A director elected by directors to fill a vacant office pursuant to this Article Eighth shall be deemed to be a director elected by the same voting group of shareholders that elected the director(s) who voted to fill the vacancy. Any director elected pursuant to this Article Eighth shall serve until the next meeting of the shareholders at which directors are elected or, if then permitted by the FBCA, the next election of the class for which such director shall have been chosen, and until such director's successor is duly elected and qualified or until such director's earlier death, resignation or removal.

NINTH: Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

TENTH: Meetings of shareholders may be held within or without the State of Florida, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Florida at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

ELEVENTH: To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its shareholders for monetary damages for breach of fiduciary duty as a director. If the FBCA or any other law of the State of Florida is amended after approval by the shareholders of this Article Twelfth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the FBCA as so amended.

Any repeal or modification of the foregoing provisions of this Article Twelfth by the shareholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

TWELFTH: To the fullest extent permitted by applicable law, the Corporation is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of the Corporation (and any other persons to which FBCA permits the Corporation to provide indemnification) through Bylaw provisions, agreements with such agents or other persons, vote of shareholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise provided by the FBCA.

Any amendment, repeal or modification of the foregoing provisions of this Article Twelfth shall not (a) adversely affect any right or protection of any director, officer or other agent of the Corporation existing at the time of such amendment, repeal or modification or (b) increase the liability of any director of the Corporation with respect to any acts or omissions of such director, officer or agent occurring prior to, such amendment, repeal or modification.

THIRTEENTH: Notwithstanding any other provision of these Third Amended and Restated Articles of Incorporation or any provision in the Bylaws of the

Corporation: (1) any provisions in these Third Amended and Restated Articles of Incorporation that require a greater voting requirement than provided in the FBCA may only be amended by the same vote required to take action under the voting requirement then in effect; and (2) any provisions in the Bylaws of the Corporation that require a greater voting requirement than provided in the FBCA may only be amended by the same vote required to take action under the voting requirement then in effect.

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this Corporation in accordance with the FBCA.

4. That these Third Amended and Restated Articles of Incorporation, which restate and integrate and further amend the provisions of this Corporation's prior Second Amended and Restated Articles of Incorporation, has been duly adopted in accordance with the FBCA.

5. That these Third Amended and Restated Articles of Incorporation shall be effective as of 11:59 pm, Eastern Time, on June 28, 2023 (the "**Effective Time**").

[Signature Page Follows]

IN WITNESS WHEREOF, these Third Amended and Restated Articles of Incorporation have been executed by a duly authorized officer of this Corporation on this 28th day of June, 2023.

By: */s/ Michelle Yanez*
Name: Michelle Yanez
Its: Chief Financial Officer

Exhibit 3.2

BY-LAWS

OF

MIRA Pharmaceuticals, Inc. (Adopted 11/1/21)

ARTICLE 1 — OFFICES

The registered office of MIRA Pharmaceuticals, Inc. (the "corporation") shall be in the City of Tampa, County of Hillsborough, State of Florida. The corporation may also have offices at such other places within or without the State of Florida as the Board may from time to time determine or the business of the corporation may require.

ARTICLE 2 — STOCKHOLDERS

1. Place of Meetings. Meetings of stockholders shall be held at the registered office of the corporation or at such place inside or outside the State of Florida as the Board of Directors (the "Board") shall authorize.

2. Annual Meeting. The annual meeting of the stockholders shall be held on such date, at such time and at such place as may be designated by the Board for the purpose of electing directors and for the transaction of such other business as may properly be brought at the meeting.

3. Special Meetings. Special meetings of the stockholders may be called by the corporation's President, Chairman of the Board, Chief Executive Officer, or by the majority of the Board or at the request in writing by stockholders owning a majority in amount of the aggregate voting shares of capital stock issued and outstanding. Such request shall state the purpose or purposes of the proposed meeting. Business transacted at a special meeting shall be confined to the purposes stated in the notice.

4. Fixing Record Date. For the purpose of determining the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or for the purpose of determining stockholders entitled to receive payment of any dividend or other distribution or the allotment of any rights, or for the purpose of any other lawful action, the Board may fix, in advance, a record date for any such determination of stockholders. Such date shall not be more than sixty nor less than ten days before the date of such meeting. If no record date is fixed it shall be determined in accordance with the provisions of applicable law.

5. Notice of Meetings of Stockholders. Written notice of each meeting of stockholders shall state the purpose or purposes for which the meeting is called, the place, date and hour of the meeting and unless it is the annual meeting, shall indicate that it is being issued by or at the direction of the person or persons calling the meeting. Notice shall be given either personally or by mail, facsimile, via email to the address listed in the corporate records for each stockholder or by telephone to each stockholder entitled to vote at such meeting, not less than ten nor more than sixty days before the date of the meeting. If mailed, the notice is given when deposited in the United States mail, postage prepaid, directed to the stockholder at his address as it appears on the records of the corporation.

6. Waivers. Notice of meeting need not be given to any stockholder who signs a waiver of notice, in person or by proxy, whether before or after the meeting. The attendance of any stockholder at a meeting, in person or by proxy, without protesting prior to the commencement of the meeting the lack of notice of such meeting, shall constitute a waiver of notice by such stockholder.

7. Quorum of Stockholders. The holders of a majority of the shares entitled to vote thereat shall constitute a quorum at a meeting of stockholders for the transaction of any business, provided that when a specified item of business is required to be voted on by a class or classes, the holders of a majority of the shares of such class or classes shall constitute a quorum for the transaction of such specified item of business.

When a quorum is once present to organize a meeting, it is not broken by the subsequent withdrawal of any stockholders. The stockholders present may adjourn the meeting despite the absence of a quorum.

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8. Proxies. Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent in writing without a meeting may authorize another person or persons to act for him by proxy.

Every proxy must be signed by the stockholder or his attorney-in-fact. No proxy shall be valid after expiration of three years from the date thereof unless otherwise provided in the proxy. Every proxy shall be revocable at the pleasure of the stockholder executing it, except as otherwise provided by law.

9. Qualification of Voters. Each stockholder of record shall be entitled at every meeting of stockholders to one vote for each share of capital stock standing in such stockholder's name on the record of stockholders.

10. Vote of Stockholders. Except as otherwise required by statute:

(a) directors shall be elected by a plurality of the votes cast at a meeting of stockholders by the holders of shares entitled to vote in the election;

(b) all other corporate action shall be authorized by a majority of the votes cast.

11. Procedure. At each meeting of stockholders, the chairman of the meeting shall fix and announce the date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at the meeting and shall determine the order of business and all other matters of procedure. Except to the extent inconsistent with any rules and regulations adopted by the Board of Directors, the chairman of the meeting may establish rules, which need not be in writing nor in advance of the meeting, to maintain order and safety and for the conduct of the meeting. Without limiting the foregoing, the chairman of the meeting may:

(a) restrict attendance at any time to bona fide stockholders of record and their proxies and other persons in attendance at the invitation of the chairman;

(b) restrict dissemination of solicitation materials and use of audio or visual recording devices at the meeting;

(c) establish seating arrangements;

(d) adjourn the meeting without a vote of the stockholders, whether or not there is a quorum present; and

(e) make rules governing speeches and debate including time limits and access to microphones.

The chairman of the meeting acts in his or her absolute discretion and his or her rulings are not subject to appeal.

12. Inspectors. The Board of Directors by resolution shall, in advance of any meeting of stockholders, appoint one or more inspectors, which inspector or inspectors may

include individuals who serve the corporation in other capacities, including, without limitation, as officers, employees, agents or representatives of the corporation, to act at the meeting and make a written report thereof. One or more persons may be designated by the Board as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the chairman of the meeting shall appoint one or more inspectors to act at the meeting. Each inspector, before discharging his or her duties, shall take and sign an oath to execute faithfully the duties of inspector with strict impartiality and according to the best of his or her ability. The inspectors shall have the duties prescribed by the General Corporation Law of the State of Florida.

13. Written Consent of Stockholders. Any action required or permitted to be taken at any annual or special meeting of stockholders may be taken without a meeting, without prior notice and without a vote, if a consent in writing, setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Prompt notice of the taking of corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing, via one of the means of notice specified in Article 2, Section 5.

ARTICLE 3 — DIRECTORS

1. Board of Directors. The business of the corporation shall be managed under the direction of its Board of directors, each of whom shall be at least 18 years of age and need not be stockholders.

2. Number of Directors. The Board shall consist of at least two but no more than seven directors as shall be fixed from time to time by either a vote of a majority of the entire Board or a vote of the majority of all shares entitled to be cast (which shall trump the vote of a majority of the entire Board).

3. Election and Term of Directors. Directors shall be elected to one-year terms. At each annual meeting of stockholders, the entire Board of Directors shall be chosen for a term of one year. Any vacancy in the Board resulting from the death, resignation or retirement of a director, or any other cause shall be filled by a majority vote of the remaining directors, though less than a quorum, for a term corresponding to the unexpired term of his/her predecessor in office. Any or all of the directors of the corporation may be removed from office at any time, but only for cause. Each director shall hold office until the expiration of the term for which that director is elected and until his/her successor is elected and qualified, or until such director's earlier resignation or removal.

4. Vacancies and Newly Created Directorships. Vacancies in the Board and newly created directorships resulting from an increase in the authorized number of directors may be filled by a sole remaining director or a majority of the directors then in office, even if less than a quorum. A director elected to fill a vacancy caused by resignation, death or removal shall be elected to hold office for the unexpired term of his/her predecessor.

5. Removal of Directors. Any or all of the directors may be removed, only for cause, by the holders of a majority of the shares then entitled to vote at a duly called shareholder meeting, whose agenda includes the election of directors.

6. Resignation. A director may resign at any time by giving written notice to the Board, the president or the secretary of the corporation. Unless otherwise specified in the notice, the resignation shall take effect upon receipt thereof by the Board or such officer, and the acceptance of the resignation shall not be necessary to make it effective.

7. Quorum of Directors. A majority of the total number of directors shall constitute a quorum for the transaction of business.

8. Action of the Board. The vote of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board. Each director present shall have one vote.

9. Place and Time of Board Meetings. The Board may hold its meetings at the office of the corporation or at such other place, either within or without the State of Florida and at such time, as the Board may from time to time determine.

10. Regular Meetings of the Board. A regular annual meeting of the Board shall be held immediately following the annual meeting of stockholders, and regular meetings of the Board shall be held at such other times as the Board may from time to time determine.

11. Special Meetings of the Board. Special meetings of the Board shall be held upon notice to the directors and may be called by the Chairman of the Board or by the president upon one-day advance notice to each director either personally, by mail, facsimile or telephone; special meetings shall be called by the president or by the secretary in a like manner on written request of two directors. Notice of a meeting need not be given to any director who submits a waiver of notice whether before or after the meeting or who attends the meeting without protesting prior thereto or at its commencement, the lack of notice to him.

12. Adjournments. A majority of the directors present, whether or not a quorum is present, may adjourn any meeting to another time and place. Notice of the adjournment shall be given all directors who were absent at the time of the adjournment and, unless such time and place are announced at the meeting, to the other directors.

13. Chairman. The chairman of the Board, or in his or her absence (or if there is no chairman elected) the president, shall preside at all meetings of the Board.

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14. Committees. The Board may, by resolution passed by a majority of the whole Board, designate from among its members an executive committee and other committees, each consisting of one or more of the directors of the corporation. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of the corporation to act at the meeting in place of any such absent or disqualified member. Each such committee, to the extent set forth in the resolution and permitted by law, shall have and may exercise all of the powers and authority of the Board. Each such committee shall serve at the request of the Board and without separate by-laws to govern such committee.

15. Compensation. Directors may be compensated for their service on the Board, either in the form of equity-based award or in cash stipends, in an amount and upon a schedule set by resolution of the Board. Nothing herein contained shall be construed to preclude any director from serving the corporation in any other capacity and receiving other compensation therefor.

16. Action Without a Meeting. Any action required or permitted to be taken at any meeting of the Board or of any committee thereof may be taken without a meeting if all members of the Board or committee, as the case may be, consent in writing to the adoption of a resolution authorizing the action. The resolution and the written consents thereto by the members of the Board or committee shall be filed with the minutes of the proceedings of the Board or committee.

17. Telephonic Meetings. Members of the Board or any committee designated by the Board, may participate in a meeting of the Board or such committee by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting pursuant to this section shall constitute presence in person at such meeting.

ARTICLE 4 — OFFICERS

1. Offices, Election, Term.

(a) The Board shall elect a Chief Executive Officer/President, a Secretary, and a Chief Financial Officer/Treasurer, and may elect a chairman, one or more vice-presidents, and such other officers as it may determine, who shall have such duties, powers and functions as hereinafter provided.

(b) All officers shall be elected to hold office until the next regular annual meeting of the Board. Each officer shall hold office for the term for which he is elected and until his successor has been elected and qualified, or until his earlier resignation or removal.

(c) Any number of offices may be held by the same person.

2. Removal and Resignation.

(a) Any officer elected by the Board may be removed by the Board with or without cause.

(b) In the event of the death, resignation or removal of an officer, the Board in its discretion may elect a successor to fill the unexpired term.

3. Chairman. The chairman shall preside at all meetings of the Board and shall have and perform such other duties as from time to time may be assigned to him by the Board.

4. Chief Executive Officer. The chief executive officer of the corporation shall preside at all meetings of the stockholders and shall be invited to participate in meetings of the Board (except where issues regarding CEO compensation are considered); the CEO shall have oversight and control of the management of the business of the corporation and shall see that all orders and resolutions of the Board are carried into effect; and shall have such other duties as from time to time may be assigned to him/her by the Board.

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5. Vice-Presidents.

(a) The Board may elect an executive vice president with such powers as may be granted by the Board upon recommendation of the CEO, which powers and functions may include those of chief operating officer.

(b) The vice president or vice presidents shall perform such duties as the Board may from time to time prescribe. In the absence or disability of the CEO and unless the Board specifies a different line of succession, the executive vice president, if any, shall have all of the powers and functions of the CEO.

6. Secretary. The secretary shall:

(a) attend all meetings of the Board and of the stockholders;

(b) record all votes and minutes of all proceedings in a book to be kept for that purpose;

(c) give or cause to be given notice of all meetings of stockholders and of special meetings of the Board;

(d) keep in safe custody the seal of the corporation and affix it to any instrument when authorized by the Board;

(e) when required, prepare or cause to be prepared and available at each meeting of stockholders a certified list in alphabetical order of the names of stockholders entitled to vote thereat, indicating the number of shares of each respective class held by each;

(f) keep all the documents and records of the corporation as required by law or otherwise in a proper and safe manner;

(g) perform such other duties as may be prescribed by the Board.

7. Assistant-Secretaries. During the absence or disability of the secretary, the assistant-secretary, or if there are more than one, the one so designated by the secretary or by the Board, shall have all of the powers and functions of the secretary.

8. Treasurer or Chief Financial Officer (collectively hereinafter “Treasurer”). The Treasurer shall:

(a) have the custody of the corporate funds and securities;

(b) keep full and accurate accounts of receipts and disbursements in the corporate books;

(c) deposit all money and other valuables in the name and to the credit of the corporation in such depositories as may be designated by the Board;

(d) disburse the funds of the corporation as may be ordered or authorized by the Board and preserve proper vouchers for such disbursements;

(e) render to the president and Board at the regular meetings of the Board, or whenever they require it, an account of all his transactions as Treasurer and of the financial condition of the corporation;

(f) render a full financial report at the annual meeting of the stockholders if so requested;

(g) be furnished by all corporate officers and agents at his request, with such reports and statements as he may require as to all financial transactions of the corporation;

(h) perform such other duties as are given to him by these by-laws or as from time to time are assigned to him by the Board or the president.

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9. Sureties and Bonds. If the Board shall so require, any officer or agent of the corporation shall execute to the corporation a bond in such sum and with such surety or sureties as the Board may direct, conditioned upon the faithful performance of his duties to the corporation and including responsibility for negligence and for the accounting for all property, funds or securities of the corporation which may come into his hands.

ARTICLE 5 — CERTIFICATES FOR SHARES

1. Certificates. The shares of the corporation shall be represented by certificates. They shall be numbered and entered in the books of the corporation as they are issued. They shall exhibit the holder's name and the number of shares and shall be signed by the chairman, the president or a vice-president and by the Treasurer or the secretary and shall bear the corporate seal. Any or all of the signatures on certificates may be a facsimile.

2. Lost, Stolen or Destroyed Certificates. The corporation may issue a new certificate of stock in place of any certificate theretofore issued by the corporation, alleged to have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate to be lost, stolen or destroyed. The corporation may, as a further condition precedent to the issuance of any such new certificate, require the owner of such lost, stolen or destroyed certificate, or his legal representative, to advertise the same in such manner as it shall require and/or give the corporation a bond in such sum and with such surety or sureties as it may direct as indemnity against any claim that may be made against the corporation with respect to the certificate alleged to have been lost, stolen or destroyed; or it may accept such other assurance as it may deem appropriate.

3. Transfers of Shares. Upon surrender to the corporation or the transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignment or authority to transfer, it shall be the duty of the corporation to issue a new certificate to the person entitled thereto, and cancel the old certificate; every such transfer shall be entered on the transfer book of the corporation which shall be kept at such place as the Board may designate. No transfer shall be made within five days next preceding the annual meeting of stockholders.

4. Record Ownership. The corporation shall be entitled to treat the holder of record of any share as the holder in fact thereof and, accordingly, shall not be bound to recognize any equitable or other claim to or interest in such share on the part of any other person whether or not it shall have express or other notice thereof, except as expressly provided by the laws of the State of Florida.

5. Closing Transfer Books. The Board shall have the power to close the share transfer books of the corporation for a period of not more than five days during the thirty day period immediately preceding (1) any stockholders' meeting, or (2) any date upon which stockholders shall be called upon to or have a right to take action without a meeting, or (3) any date fixed for the payment of a dividend or any other form of distribution, and only those stockholders of record at the time the transfer books are closed, shall be recognized as such for the purpose of (1) receiving notice of or voting at such meeting, or (2) allowing them to take appropriate action, or (3) entitling them to receive any dividend or other form of distribution.

ARTICLE 6 — DIVIDENDS

Subject to the provisions of the certificate of incorporation and to applicable law, dividends on the outstanding shares of the corporation may be declared in such amounts and at such time or times as the Board may determine. Before payment of any dividend, there may be set aside out of any of the funds of the corporation available for dividends such sum or sums as the Board from time to time in its absolute discretion deems proper as a reserve fund to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the corporation, or for such other purpose as the Board shall think conducive to the interests of the corporation, and the Board may modify or abolish any such reserve.

ARTICLE 7 — INDEMNIFICATION

1. Right of Indemnification. Every person now or hereafter serving as a director or officer of the corporation and every such director or officer serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall be indemnified by the corporation in accordance with and to the fullest extent permitted by law for the defense of, or in connection with, any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative.

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2. Expenses. Expenses (including attorneys' fees) incurred in defending a civil, criminal, administrative, or investigative action, suit or proceeding shall be paid by the corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that he is not entitled to be indemnified by the corporation as authorized in this Article.

3. Other Rights of Indemnification. The right of indemnification herein provided shall not be deemed exclusive of any other rights to which any such director or officer may now or hereafter be entitled under any by-law, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in his official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be a director or officer and shall inure to the benefit of the heirs, executors and administrators of such person.

ARTICLE 8 — CORPORATE SEAL

The seal of the corporation shall be circular in form and bear the name of the corporation, the year of its organization and the words "Corporate Seal, Florida." The seal may be used by causing it to be impressed directly on the instrument or writing to be sealed, or upon adhesive substance affixed thereto. The seal on the certificates for shares or on any corporate obligation for the payment of money may be a facsimile, engraved or printed.

ARTICLE 9 — EXECUTION OF INSTRUMENTS

All corporate instruments and documents shall be signed or countersigned, executed, verified or acknowledged by such officer or officers or other person or persons as the Board may from time to time designate.

ARTICLE 10 — FISCAL YEAR

The fiscal year of the corporation shall end on the last day of December in each year.

ARTICLE 11 — REFERENCES TO ARTICLES OF INCORPORATION

Reference to the articles of incorporation in these by-laws refer to the Articles of Incorporation of the corporation and shall include all amendments thereto or changes thereof, unless specifically excepted.

ARTICLE 12 — BYLAW CHANGES

The by-laws may be adopted, amended, or repealed by the Board or by the stockholders entitled to vote (provided that changes in the Bylaws approved by the stockholders shall trump the Bylaw changes approved by the Board).

Exhibit 4.3

THIS WARRANT AND THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND MAY NOT BE OFFERED, SOLD, ASSIGNED, PLEDGED, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT, AND UPON DELIVERY OF AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT THE PROPOSED TRANSFER IS EXEMPT FROM THE SECURITIES ACT.

THIS WARRANT AND THE SHARES ISSUABLE UPON THE EXERCISE OF THIS WARRANT ARE SUBJECT TO CERTAIN RESTRICTIONS ON TRANSFER AND A MARKET STANDOFF PROVISION AS SET FORTH IN THE SUBSCRIPTION AGREEMENT PURSUANT TO WHICH THIS WARRANT WAS ISSUED, COPIES OF WHICH MAY BE OBTAINED AT THE PRINCIPAL OFFICE OF THE COMPANY. SUCH TRANSFER RESTRICTIONS AND MARKET STANDOFF PROVISION ARE BINDING ON PERMITTED TRANSFEREES OF THIS WARRANT.

COMMON STOCK PURCHASE WARRANT

To purchase shares of common stock, no par value, of

MIRA PHARMACEUTICALS, INC.

Dated: April 28, 2023

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, the **Bay Shore Trust** (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date of this Warrant and on or prior to the close of business on the date that is fifth (5th) anniversary of the date of this Warrant (the "Termination Date") but not thereafter and subject to Section 11 below (the "Exercise Period"), to subscribe for and purchase from MIRA PHARMACEUTICALS, INC., a Florida corporation (the "Company"), up to FIVE MILLION (5,000,000) shares (the "Warrant Shares") of common stock, no par value, of the Company (the "Common Stock"). The purchase price of one share of Common Stock under this Warrant shall be $1.00 (the "Exercise Price"), payable in cash. This Warrant may be exercised in whole or in part at any time prior to the Termination Date. The Exercise Price and the number of Warrant Shares for which the Warrant is exercisable shall be subject to adjustment as provided herein. The term "Holder" shall refer to the Holder identified above or any subsequent transferee of this Warrant.

1. Authorization of Warrant Shares. The Company represents and warrants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant, be duly authorized, validly issued, fully paid and nonassessable.

2. Exercise of Warrant. Except as provided in Section 3 herein and subject to Section 11, exercise of the purchase rights represented by this Warrant may be made at any time on or after the date of this Warrant and on or prior to the close of business on the Termination Date by (i) surrendering this Warrant, with the Notice of Exercise Form attached hereto completed and duly executed, to the offices of the Company (or such other office or agency (including the transfer agent, if applicable) of the Company as it may designate by notice in writing to the registered Holder at the address of such Holder appearing on the books of the Company), and (ii) delivering to the Company payment of the Exercise Price by wire transfer of immediately available funds or cashier's check drawn on a United States bank. The Holder exercising his, her or its purchase rights in accordance with the preceding sentence shall be entitled to receive a certificate for the Warrant Shares so purchased, which certificate will bear a legend substantially similar to the legend set forth on this Warrant. Certificates for shares purchased hereunder shall be issued and delivered to the Holder within five (5) business days after the date on which this Warrant shall have been exercised as aforesaid. This Warrant shall be deemed to have been exercised and such certificate or certificates shall be deemed to have been issued, and the Holder shall be deemed to no longer hold this Warrant with respect to such shares and to have become a holder of record of such shares for all purposes, in each case, as of the date the Warrant has been exercised by payment to the Company of the Exercise Price for such shares and all taxes required to be paid by the Holder, if any, pursuant to Section 4 prior to the issuance of such shares, have been paid.

3. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price.

4. Charges, Taxes and Expenses. Issuance of certificates for Warrant Shares shall be made without charge to the Holder for any issue tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder; provided, however, that the Holder shall pay any applicable transfer taxes.

5. No Rights as Stockholder until Exercise. This Warrant does not entitle the Holder to any voting rights or other rights as a stockholder of the Company prior to the exercise hereof. Upon the surrender of this Warrant and the payment of the aggregate Exercise Price, the Warrant Shares so purchased shall be and be deemed to be issued to such Holder as the record owner of such shares as of the close of business on the later of the date of such surrender or payment, and this Warrant shall no longer be issuable with respect to such Warrant Shares.

6. Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that, upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in the case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it, and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

7. Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday, Sunday or legal holiday, then such action may be taken or such right may be exercised on the next succeeding day not a Saturday, Sunday or legal holiday.

8. Adjustments and Termination of Rights. The purchase price per Warrant Share and the number of Warrant Shares purchasable hereunder are subject to adjustment from time to time as follows:

(a) Reclassification, Recapitalization, etc. If the Company at any time shall, by reclassification of securities, recapitalization, automatic conversion, or other similar event affecting the number or character of outstanding shares of Common Stock, or otherwise, change any of the securities as to which purchase rights under this Warrant exist into the same or a different number of securities of any other class or classes, this Warrant shall thereafter represent the right to acquire such number and kind of securities as would have been issuable as the result of such change with respect to the securities that were subject to the purchase rights under this Warrant immediately prior to such reclassification or other change.

(b) Split, Subdivision or Combination of Shares. If the Company at any time while this Warrant remains outstanding and unexpired shall split, subdivide or

combine the securities as to which purchase rights under this Warrant exist, the Exercise Price shall be proportionately decreased in the case of a split or subdivision or proportionately increased in the case of a combination.

(c) Stock Dividends. If the Company at any time while this Warrant is outstanding and unexpired shall pay a dividend with respect to Common Stock payable in shares of Common Stock, then the Exercise Price shall be adjusted, from and after the date of determination of the shareholders entitled to receive such dividend or distribution, to that price determined by multiplying the Exercise Price in effect immediately prior to such date of determination by a fraction (i) the numerator of which shall be the total number of shares of Common Stock outstanding immediately prior to such dividend or distribution, and (ii) the denominator of which shall be the total number of shares of Common Stock outstanding immediately after such dividend or distribution.

(d) Adjustment of Number of Warrant Shares. Upon each adjustment in the Exercise Price pursuant to Sections 8(b) or 8(c) hereof, the number of Warrant Shares purchasable hereunder shall be adjusted to the product obtained by multiplying the number of Warrant Shares purchasable immediately prior to such adjustment in the Exercise Price by a fraction (i) the numerator of which shall be the Exercise Price immediately prior to such adjustment, and (ii) the denominator of which shall be the Exercise Price immediately after such adjustment.

9. Notice of Adjustments, Notices. If the Exercise Price or number or type of securities issuable hereunder shall be adjusted pursuant to Section 8 hereof, the Company shall issue and provide to the Holder, as holder of this Warrant, a certificate signed by an officer of the Company setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated and the Exercise Price and number of Warrant Shares purchasable hereunder after giving effect to such adjustment.

10. Authorized Shares. The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to ensure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation.

11. Early Termination. Notwithstanding anything to the contrary set forth in this Warrant Agreement, in the event of a proposed Company Sale, the Company shall give written notice to the Holder that the Company proposes to enter into a Company Sale (a "Sale Notice"). Such notice shall be provided no less than fifteen (15) calendar days prior to the anticipated closing date of the Company Sale. In the event that the Company does not receive a Notice of Exercise within fifteen (15) days after delivering the Sale Notice, then this Warrant will automatically terminate and be of no further force and effect as of the closing date of the Company Sale. Each Warrant not exercised on or before the date of consummation of a Company Sale shall become void, and all rights thereunder and in respect thereof under this Agreement shall cease at the close of business on such date. "Company Sale" means (i) a sale or transfer of more than fifty percent (50%) or more of the outstanding shares of Common Stock of the Company by the holders thereof to transferees that are not affiliates of the respective transferors, (ii) the sale or disposition of all or substantially all of the Company's assets, (iii) any merger, consolidation, or other business combination of the Company with an entity that is not an affiliate of the Company, or (iv) any other transaction or reorganization that the Board of Directors of the Company believes in good faith is in the nature of a transaction described in the foregoing clauses of this sentence.

12. Miscellaneous.

(a) Jurisdiction. This Warrant shall constitute a contract under the laws of the State of Florida, without regard to its conflict of law, principles or rules.

(b) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant will have restrictions upon resale imposed by state and federal securities laws and as set forth in the Subscription Agreement pursuant to which this Warrant was issued.

(c) Notices. All notices, requests, consents and other communications provided for herein shall be in writing and shall be effective upon delivery in person or five business days after being mailed by certified or registered mail, return receipt requested, postage pre-paid, addressed as follows:

(i) If to the Holder to the address of the Holder as shown on the books of the Company; or

(ii) If to the Company:

MIRA PHARMACEUTICALS, INC.
900 W PLATT ST., SUITE 200
TAMPA, FLORIDA 33606
Attention: Chief Executive Officer

or at such other address as the Holder or the Company, as applicable, may hereafter provide to the other in accordance with the provisions of this paragraph.

(d) Successors and Assigns; No Assignment. This Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors of the Company. The Holder may assign this Warrant without the prior written consent of the Company.

(e) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

(f) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(g) Headings. The headings used in this Warrant are for convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

[signature follows]

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized.

MIRA PHARMACEUTICALS, INC.

By: */s/ Erez Aminov*
Erez Aminov
Chief Executive Officer

NOTICE OF EXERCISE

To: MIRA PHARMACEUTICALS, INC.

(1) The undersigned hereby elects to purchase of the Warrant Shares of MIRA PHARMACEUTICALS, INC. pursuant to the terms of the attached Warrant. Capitalized terms used but not otherwise defined herein shall have the meanings set forth in the attached Warrant.

(2) The undersigned tenders herewith payment of the Exercise Price in full, together with all applicable transfer taxes, if any. Payment shall take the form of lawful money of the United States.

(3) Please issue a certificate or certificates representing said Warrant Shares in the name of the undersigned. The Warrant Shares shall be delivered to the following:

(4) Accredited Investor. The undersigned is an "accredited investor" as defined in Regulation D under the Securities Act of 1933, as amended.

PURCHASER

By: _____
Name:
Title:

Dated: _____

MIRA PHARMACEUTICALS, INC.
2022 OMNIBUS INCENTIVE PLAN
(AS AMENDED AND RESTATED)

1. Purposes and Effective Date.

(a) *Purposes*. The MIRA Pharmaceuticals, Inc. 2022 Omnibus Incentive Plan, as amended and restated, has two complementary purposes: (i) to attract and retain outstanding individuals to serve as officers, directors, employees, and consultants and (ii) to increase shareholder value. The Plan will provide participants incentives to increase shareholder value by offering the opportunity to acquire shares of the Company's common stock, receive monetary payments based on the value of such common stock, or receive other incentive compensation, on the potentially favorable terms that this Plan provides.

(b) *Effective Date.* The Plan originally became effective on June 15, 2022 (the "Effective Date") and was originally adopted as the "MIRA1a Therapeutics, Inc. 2022 Omnibus Incentive Plan." On October 6, 2022, the Company changed its corporate name to MIRA Pharmaceuticals, Inc. This amendment and restatement of the Plan was adopted and approved by the Board and stockholders of the Company effective June 27, 2023 (the "Amendment Date") and reflects the Company's 1-for-5 reverse stock split of its issued and outstanding common stock that became effective on June 28, 2023. This Plan will terminate as provided in Section 15.

2. Definitions. Capitalized terms used and not otherwise defined in this Plan or in any Award agreement have the following meanings:

(a) "Act" means the Securities Act of 1933, as amended from time to time. Any reference to a specific provision of the Act shall include any successor provision thereto.

(b) "Administrator" means the Board or the Committee;*provided* that, to the extent the Board or the Committee has delegated authority and responsibility as an Administrator of the Plan to one or more committees or officers of the Company as permitted by Section 3(b), the term "Administrator" shall also mean such committee, committees, officer or officers.

(c) "Affiliate" has the meaning ascribed to such term in Rule 12b-2 under the Exchange Act. Notwithstanding the foregoing, for purposes of determining those individuals to whom an Option or a Stock Appreciation Right may be granted, the term "Affiliate" means any entity that, directly or through one or more intermediaries, is controlled by or is under common control with, the Company within the meaning of Code Sections 414(b) or (c); *provided* that, in applying such provisions, the phrase "at least 20 percent" shall be used in place of "at least 80 percent" each place it appears therein.

(d) "Amendment Date" has the meaning in Section 1(b).

(e) "Applicable Exchange" means the Nasdaq Stock Market, the New York Stock Exchange or such other exchange or automated trading system on which the Stock is principally traded at the applicable time.

(f) "Award" means a grant of Options, Stock Appreciation Rights, Performance Shares, Performance Units, Stock, Restricted Stock, Restricted Stock Units, an Incentive Award, Dividend Equivalent Units or any other type of award permitted under this Plan. Any Award granted under this Plan shall be provided or made in such manner and at such time as complies with the applicable requirements of Code Section 409A to avoid a plan failure described in Code Section 409A(a)(1), including, without limitation, deferring payment to a specified employee or until a specified distribution event, as provided in Code Section 409A(a)(2), and the provisions of Code Section 409A are incorporated into this Plan to the extent necessary for any Award that is subject to Code Section 409A to comply therewith.

(g) "Beneficial Owner" means a Person, with respect to any securities which:

(i) such Person or any of such Person's Affiliates has the right to acquire (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement or understanding, or upon the exercise of conversion rights, exchange rights, rights, warrants or options, or otherwise; provided, however, that a Person shall not be deemed the Beneficial Owner of, or to beneficially own, securities tendered pursuant to a tender or exchange offer made by or on behalf of such Person or any of such Person's Affiliates until such tendered securities are accepted for purchase;

(ii) such Person or any of such Person's Affiliates, directly or indirectly, has the right to vote or dispose of or has "beneficial ownership" of (as determined pursuant to Rule 13d-3 of the General Rules and Regulations under the Act), including pursuant to any agreement, arrangement or understanding; provided, however, that a Person shall not be deemed the Beneficial Owner of, or to beneficially own, any security under this clause (ii) as a result of an agreement, arrangement or understanding to vote such security if the agreement, arrangement or understanding: (A) arises solely from a revocable proxy or consent given to such Person in response to a public proxy or consent solicitation made pursuant to, and in accordance with, the applicable rules and regulations under the Act and (B) is not also then reportable on a Schedule l3D under the Act (or any comparable or successor report); or

(iii) are beneficially owned, directly or indirectly, by any other Person with which such Person or any of such Person's Affiliates has any agreement, arrangement or understanding for the purpose of acquiring, holding, voting (except pursuant to a revocable proxy as described in clause (ii) above) or disposing of any voting securities of the Company.

(h) "Board" means the Board of Directors of the Company.

(i) "Cause" shall have the same meaning as set forth in a Participant's employment agreement or individual Award with the Company, or, if the Participant does not have an employment agreement with the Company (or the Participant's individual Award does not otherwise define the term), "Cause" shall mean a good faith finding by the Company that the Participant has (i) failed, neglected, or refused to perform the lawful employment duties related to the Participant's position or as from time to time assigned to the Participant (other than due to disability within the meaning of Code Section 22(e)(3)); (ii) committed any willful, intentional, or grossly negligent act having the effect of injuring the interest, business, or reputation of the Company or any Affiliate; (iii) violated or failed to comply in any material respect with the Company's or an Affiliate's published rules, regulations, or policies, as in effect or amended from time to time, to the extent applicable to the Participant; (iv) committed an act constituting a felony or misdemeanor involving moral turpitude, fraud, theft, or dishonesty; (v) misappropriated or embezzled any property of the Company or an Affiliate (whether or not an act constituting a felony or misdemeanor); or (vi) breached any material provision of any applicable confidentiality, non-compete, non-solicit, general release, covenant not-to-sue, or other agreement with the Company or any Affiliate.

(j) "Change of Control" means, unless specified otherwise in an Award agreement, the occurrence of any of the following:

(i) any Person (other than (A) the Company or any of its subsidiaries, (B) a trustee or other fiduciary holding securities under any employee benefit plan of the

Company or any of its subsidiaries, (C) an underwriter temporarily holding securities pursuant to an offering of such securities, or (D) a corporation owned, directly or indirectly, by the shareholders of the Company in substantially the same proportions as their ownership of stock in the Company ("Excluded Persons")) is or becomes the Beneficial Owner, directly or indirectly, of securities of the Company (not including in the securities beneficially owned by such Person any securities acquired directly from the Company or its Affiliates after the Effective Date, pursuant to express authorization by the Board that refers to this exception) representing fifty percent (50%) or more of either the then outstanding shares of common stock of the Company or the combined voting power of the Company's then outstanding voting securities; or

(ii) the following individuals cease for any reason to constitute a majority of the number of directors of the Company then serving: (A) individuals who, on the Effective Date, constituted the Board and (B) any new director (other than a director whose initial assumption of office is in connection with an actual or threatened election contest, including but not limited to a consent solicitation, relating to the election of directors of the Company, as such terms are used in Rule 14a-11 of Regulation 14A under the Act) whose appointment or election by the Board or nomination for election by the Company's shareholders was approved by a vote of at least two-thirds (2/3) of the directors then still in office who either were directors on the Effective Date, or whose appointment, election or nomination for election was previously so approved (collectively the "Continuing Directors"); provided, however, that individuals who are appointed to the Board pursuant to or in accordance with the terms of an agreement relating to a merger, consolidation, or share exchange involving the Company (or any direct or indirect Subsidiary of the Company) shall not be Continuing Directors for purposes of this Agreement until after such individuals are first nominated for election by a vote of at least two-thirds (2/3) of the then Continuing Directors and are thereafter elected as directors by the shareholders of the Company at a meeting of shareholders held following consummation of such merger, consolidation, or share exchange; and, provided further, that in the event the failure of any such persons appointed to the Board to be Continuing Directors results in a Change of Control, the subsequent qualification of such persons as Continuing Directors shall not alter the fact that a Change of Control occurred; or

(iii) the consummation of a merger, consolidation or share exchange of the Company with any other corporation or the issuance of voting securities of the Company in connection with a merger, consolidation or share exchange of the Company (or any direct or indirect Subsidiary of the Company), in each case, which requires approval of the shareholders of the Company, other than (A) a merger, consolidation or share exchange which would result in the voting securities of the Company outstanding immediately prior to such merger, consolidation or share exchange continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or any parent thereof) at least fifty percent (50%) of the combined voting power of the voting securities of the Company or such surviving entity or any parent thereof outstanding immediately after such merger, consolidation or share exchange, or (B) a merger, consolidation or share exchange effected to implement a recapitalization of the Company (or similar transaction) in which no Person (other than an Excluded Person) is or becomes the Beneficial Owner, directly or indirectly, of securities of the Company (not including in the securities beneficially owned by such Person any securities acquired directly from the Company or its Affiliates after the Effective Date, pursuant to express authorization by the Board that refers to this exception) representing twenty percent (20%) or more of either the then outstanding shares of common stock of the Company or the combined voting power of the Company's then outstanding voting securities; or

(iv) the consummation of a plan of complete liquidation or dissolution of the Company or a sale or disposition by the Company of all or substantially all of the Company's assets (in one transaction or a series of related transactions within any period of twenty-four (24) consecutive months), in each case, which requires approval of the shareholders of the Company, other than a sale or disposition by the Company of all or substantially all of the Company's assets to an entity at least seventy-five percent (75%) of the combined voting power of the voting securities of which are owned by Persons in substantially the same proportions as their ownership of the Company immediately prior to such sale.

Notwithstanding the foregoing, no "Change of Control" shall be deemed to have occurred if there is consummated any transaction or series of integrated transactions immediately following which the record holders of the common stock of the Company immediately prior to such transaction or series of transactions continue to own, directly or indirectly, in the same proportions as their ownership in the Company, an entity that owns all or substantially all of the assets or voting securities of the Company immediately following such transaction or series of transactions.

Notwithstanding the foregoing, if an Award is considered deferred compensation subject to the provisions of Code Section 409A, and if a payment under such Award is triggered upon a "Change of Control," then the foregoing definition shall be deemed amended as necessary to comply with Code Section 409A.

(k) "Code" means the Internal Revenue Code of 1986, as amended. Any reference to a specific provision of the Code includes any successor provision and the regulations promulgated under such provision.

(l) "Committee" means the Compensation Committee of the Board, any successor committee thereto or such other committee of the Board that is designated by the Board with the same or similar authority. The Committee shall consist only of Non-Employee Directors (not fewer than two (2)) to the extent necessary for the Plan and Awards to comply with Rule 16b-3 promulgated under the Exchange Act.

(m) "Company" means MIRA Pharmaceuticals, Inc., a Florida corporation, or any successor thereto.

(n) "Director" means a member of the Board.

(o) "Disability" means, unless otherwise defined in the applicable Award agreement, a finding of disability under the long-term disability plan sponsored by the Company or an Affiliate in which the Participant participates. Notwithstanding the foregoing, for Awards that are subject to Section 409A of the Code, Disability shall mean that a Participant is disabled under Section 409A(a)(2)(C)(i) or (ii) of the Code.

(p) "Dividend Equivalent Unit" means the right to receive a payment, in cash or Shares, equal to the cash dividends or other cash distributions paid with respect to a Share.

(q) "Effective Date" has the meaning in Section 1(b).

(r) "Exchange Act" means the Securities Exchange Act of 1934, as amended. Any reference to a specific provision of the Exchange Act includes any successor provision and the regulations and rules promulgated under such provision.

(s) "Fair Market Value" means a price that is based on the opening, closing, actual, high or low sale price, or the arithmetic mean of selling prices of, a Share, on the Applicable Exchange on the applicable date, the preceding trading day, the next succeeding trading day, or the arithmetic mean of selling prices on all trading days over a specified averaging period weighted by volume of trading on each trading day in the period that is within 30 days before or 30 days after the applicable date, as determined by the Administrator in its discretion; provided that, if an arithmetic mean of prices is used to set a grant price or an exercise price for an Option or Stock Appreciation Right, the commitment to grant the applicable Award based on such arithmetic mean must be irrevocable before the beginning of the specified averaging period in accordance with Treasury Regulation 1.409A-1(b)(5)(iv)(A). The method of determining Fair Market Value with respect to an Award shall be determined by the Administrator and may differ depending on whether Fair Market Value is in reference to the grant, exercise, vesting, settlement, or payout of an Award; provided that, if the Administrator does not specify a different method, the Fair Market Value of a Share as of a given date shall be the closing sale price as of the trading day immediately preceding the date as of which Fair Market Value is to be determined or, if there shall be no such sale on such date, the next preceding day on which such a sale shall have occurred. If the Stock is not traded on an established stock exchange, the Administrator shall determine in good faith the Fair Market Value in whatever manner it considers appropriate but based on objective criteria. Notwithstanding the foregoing, in the case of the sale of Shares on the Applicable Exchange, the actual sale price shall be the Fair Market Value of such Shares.

(t) “Incentive Award” means the right to receive a cash payment to the extent Performance Goals are achieved (or other requirements are met), and shall include “Annual Incentive Awards” as described in Section 10 and “Long-Term Incentive Awards” as described in Section 11.

(u) “Incentive Stock Option” means an Option that is intended to qualify as an “incentive stock option” within the meaning of Section 422 of the Code.

(v) “Non-Employee Director” means a Director who is not also an employee of the Company or its Subsidiaries and, to the extent necessary for Awards to comply with Rule 16b-3 under the Exchange Act, who otherwise meets the definition of “Non-Employee Director” in Rule 16b-3(b)(3) under the Exchange Act.

(w) “Nonqualified Stock Option” means an Option that is not intended to qualify as an Incentive Stock Option.

(x) “Option” means the right to purchase a Share at a stated price for a specified period of time.

(y) “Participant” means an individual selected by the Administrator to receive an Award.

(z) “Performance Goals” means any objective or subjective goals the Administrator establishes with respect to an Award. A Performance Goal may, but is not required to, relate to one or more of the following with respect to the Company or any one or more Subsidiaries, Affiliates or other business units: basic earnings per common share for the Company on a consolidated basis; diluted earnings per common share for the Company on a consolidated basis; total shareholder return; fair market value of shares; net sales; cost of sales; gross profit; selling, general and administrative expenses; operating income; earnings before interest and the provision for income taxes (EBIT); earnings before interest, the provision for income taxes, depreciation, and amortization (EBITDA); net income; accounts receivable; return on equity; return on assets; return on invested capital; return on sales; economic value added, or other measure of profitability that considers the cost of capital employed; free cash flow; net cash provided by operating activities; net increase (decrease) in cash and cash equivalents; customer satisfaction; market share; and/or quality. Unless otherwise determined by the Administrator, the relevant measurement of performance as to each Performance Goal shall be computed in accordance with generally accepted accounting principles, if applicable. The Administrator reserves the right to adjust Performance Goals, or modify the manner of measuring or evaluating a Performance Goal, for any reason the Administrator determines is appropriate, including but not limited to by excluding the effects of (i) charges for reorganizing and restructuring, (ii) discontinued operations, (iii) asset write-downs, (iv) gains or losses on the disposition of a business, (v) mergers, acquisitions or dispositions, and (vi) extraordinary, unusual and/or non-recurring items of gain or loss. The inclusion in an Award agreement of specific adjustments or modifications shall not be deemed to preclude the Administrator from making other adjustments or modifications, in its discretion, as described herein, unless the Award agreement provides that the adjustments or modifications described in such agreement shall be the sole adjustments or modifications. The Administrator may establish other Performance Goals not listed in this Plan. Where applicable, the Performance Goals may be expressed, without limitation, in terms of attaining a specified level of the particular criterion or the attainment of an increase or decrease (expressed as absolute numbers or a percentage) in the particular criterion or achievement in relation to a peer group or other index. The Performance Goals may include a threshold level of performance below which no payment will be made (or no vesting will occur), levels of performance at which specified payments will be paid (or specified vesting will occur), and a maximum level of performance above which no additional payment will be made (or at which full vesting will occur).

(aa) “Performance Shares” means the right to receive Shares to the extent Performance Goals are achieved (or other requirements are met).

(bb) “Performance Unit” means the right to receive a cash payment and/or Shares valued in relation to a unit that has a designated dollar value or the value of which is equal to the Fair Market Value of one or more Shares, to the extent Performance Goals are achieved (or other requirements are met).

(cc) “Person” means any individual, firm, partnership, corporation or other entity, including any successor (by merger or otherwise) of such entity, or a group of any of the foregoing acting in concert.

(dd) “Plan” means this MIRA Pharmaceuticals, Inc. 2022 Omnibus Incentive Plan, as amended and restated, and as it may be amended from time to time.

(ee) “Restricted Stock” means Shares that are subject to a risk of forfeiture or restrictions on transfer, or both a risk of forfeiture and restrictions on transfer, which may lapse upon the achievement or partial achievement of Performance Goals or upon the completion of a period of service, or both.

(ff) “Restricted Stock Unit” means the right to receive a cash payment and/or Shares the value of which is equal to the Fair Market Value of one Share.

(gg) “Section 16 Participants” means Participants who are subject to the provisions of Section 16 of the Exchange Act.

(hh) “Share” means a share of Stock.

(ii) “Stock” means the common stock, par value $0.001 per share, of the Company.

(jj) “Stock Appreciation Right” or “SAR” means the right to receive a cash payment, and/or Shares with a Fair Market Value, equal to the appreciation of the Fair Market Value of a Share during a specified period of time.

(kk) “Subsidiary” means any corporation, limited liability company or other limited liability entity in an unbroken chain of entities beginning with the Company if each of the entities (other than the last entities in the chain) owns the stock or equity interest possessing more than fifty percent (50%) of the total combined voting power of all classes of stock or other equity interests in one of the other entities in the chain.

3. Administration.

(a) *Administration*. In addition to the authority specifically granted to the Administrator in this Plan, the Administrator has full discretionary authority to administer this Plan, including but not limited to the authority to: (i) interpret the provisions of this Plan or any agreement covering an Award; (ii) prescribe, amend and rescind rules and regulations relating to this Plan; (iii) correct any defect, supply any omission, or reconcile any inconsistency in the Plan, any Award or any agreement covering an Award in the manner and to the extent it deems desirable to carry this Plan or such Award into effect; and (iv) make all other determinations necessary or advisable for the administration of this Plan. All Administrator determinations shall be made in the sole discretion of the Administrator and are final and binding on all interested parties.

(b) *Delegation to Other Committees or Officers.* To the extent applicable law permits, the Board may delegate to another committee of the Board, or the Committee may delegate to a subcommittee of the Committee or to one or more officers of the Company, any or all of their respective authority and responsibility as an Administrator of the Plan; *provided* that no such delegation is permitted with respect to Stock-based Awards made to Section 16 Participants at the time any such delegated authority or responsibility is exercised unless the delegation is to another committee of the Board consisting entirely of Non-Employee Directors. If the Board or the Committee has made such a delegation, then all references to the Administrator in this Plan include such other committee, subcommittee or one or more officers to the extent of such delegation.

(c) *No Liability; Indemnification.* No member of the Board or the Committee, and no officer or member of any other committee to whom a delegation under Section 3(b) has been made, will be liable for any act done, or determination made, by the individual in good faith with respect to the Plan or any Award. The Company will indemnify and hold harmless each such individual as to any acts or omissions, or determinations made, in each case done or made in good faith, with respect to this Plan or any Award to the maximum extent that the law and the Company's By-Laws permit.

4. Eligibility. The Administrator may designate any of the following as a Participant from time to time, to the extent of the Administrator's authority: any officer or other employee of the Company or its Affiliates; any individual that the Company or an Affiliate has engaged to become an officer or employee; any consultant or advisor who provides services to the Company or its Affiliates; or any Director, including a Non-Employee Director. The Administrator's designation of, or granting of an Award to, a Participant will not require the Administrator to designate such individual as a Participant or grant an Award to such individual at any future time. The Administrator's granting of a particular type of Award to a Participant will not require the Administrator to grant any other type of Award to such individual.

5. Types of Awards. Subject to the terms of this Plan, the Administrator may grant any type of Award to any Participant it selects, but only employees of the Company or a Subsidiary may receive grants of Incentive Stock Options. Awards may be granted alone or in addition to, in tandem with, or (subject to the prohibition on repricing set forth in Section 15(e)) in substitution for any other Award (or any other award granted under another plan of the Company or any Affiliate, including the plan of an acquired entity).

6. Shares Reserved under this Plan.

(a) *Plan Reserve*. Subject to adjustment as provided in Section 17, as of the Amendment Date, an aggregate of 2,000,000 Shares are reserved for issuance under this Plan, all of which may be issued pursuant to the exercise of Incentive Stock Options. The aggregate number of Shares reserved for issuance under this Plan shall be increased annually on the first day of each fiscal year of the Company after the Amendment Date, commencing on the first day of the Company's first fiscal year following the completion by the Company of an underwritten initial public offering, by a number of Shares equal to the least of: (i) 200,000 Shares, (ii) 1.0% of the number of outstanding shares of all classes of the Company's common stock as of the last day of the immediately preceding fiscal year, or (iii) such other number of Shares as the Board may determine. The Shares reserved for issuance may be either authorized and unissued Shares or Shares reacquired at any time and now or hereafter held as treasury stock. The aggregate number of Shares reserved under this Section 6(a) shall be depleted on the date of grant of an Award by the maximum number of Shares, if any, that may be issuable under an Award as determined at the time of grant. Notwithstanding the foregoing, an Award that may be settled solely in cash shall not cause any depletion of the Plan's Share reserve at the time such Award is granted.

(b) *Replenishment of Shares Under this Plan.* To the extent (i) an Award lapses, expires, terminates or is cancelled without the issuance of Shares under the Award (whether due currently or on a deferred basis) or is settled in cash, (ii) it is determined during or at the conclusion of the term of an Award that all or some portion of the Shares with respect to which the Award was granted will not be issuable on the basis that the conditions for such issuance will not be satisfied, (iii) Shares are forfeited under an Award (except as described below), (iv) Shares are issued under any Award and the Company subsequently reacquires them pursuant to rights reserved upon the issuance of the Shares, or (v) Shares are tendered or withheld in payment of the exercise price of an Option or as a result of the net settlement of an outstanding Stock Appreciation Right or (vi) Shares are tendered or withheld to satisfy federal, state or local tax withholding obligations, then such Shares shall be recredited to the Plan's reserve and may again be used for new Awards under this Plan, but Shares recredited to the Plan's reserve pursuant to clause (iv), (v) or (vi) may not be issued pursuant to Incentive Stock Options.

(c) *Non-Employee Director Award Limitation*. Subject to adjustment as provided in Section 7, the maximum number of Shares that may be granted during any fiscal year to any individual Non-Employee Director, in his or her capacity as a Non-Employee Director, shall not exceed that number of Shares that has a grant date fair value of, when added to any cash compensation received by such Non-Employee Director, $300,000.

7. Options. Subject to the terms of this Plan, the Administrator will determine all terms and conditions of each Option, including but not limited to: (a) whether the Option is an Incentive Stock Option that meets the requirements of Code Section 422, or a Nonqualified Stock Option that does not meet the requirements of Code Section 422; (b) the grant date, which may not be any day prior to the date that the Administrator approves the grant; (c) the number of Shares subject to the Option; (d) the exercise price, which may never be less than the Fair Market Value of the Shares subject to the Option as determined on the date of grant, (e) the terms and conditions of vesting and exercise; (f) the term, except that an Option must terminate no later than ten (10) years after the date of grant; and (g) the manner of payment of the exercise price. In all other respects, the terms of any Incentive Stock Option should comply with the provisions of Code Section 422 except to the extent the Administrator determines otherwise. If an Option that is intended to be an Incentive Stock Option fails to meet the requirements thereof, the Option shall automatically be treated as a Nonqualified Stock Option to the extent of such failure. To the extent permitted by the Administrator, and subject to such procedures as the Administrator may specify, the payment of the exercise price of Options may be made by (w) delivery of cash or other Shares or other securities of the Company (including by attestation) having a then Fair Market Value equal to the purchase price of such Shares, (x) by delivery (including by fax) to the Company or its designated agent of an executed irrevocable option exercise form together with irrevocable instructions to a broker-dealer to sell or margin a sufficient portion of the Shares and deliver the sale or margin loan proceeds directly to the Company to pay for the exercise price, (y) by surrendering the right to receive Shares otherwise deliverable to the Participant upon exercise of the Award having a Fair Market Value at the time of exercise equal to the total exercise price, or (z) by any combination of the methods set forth in clauses (w), (x) and/or (y). Except to the extent otherwise set forth in an Award agreement, a Participant shall have no rights as a holder of Stock as a result of the grant of an Option until the Option is exercised, the exercise price and applicable withholding taxes are paid and the Shares subject to the Option are issued thereunder.

8. Stock Appreciation Rights. Subject to the terms of this Plan, the Administrator will determine all terms and conditions of each SAR, including but not limited to: (a) whether the SAR is granted independently of an Option or relates to an Option; (b) the grant date, which may not be any day prior to the date that the Administrator approves the grant; (c) the number of Shares to which the SAR relates; (d) the grant price, which may never be less than the Fair Market Value of the Shares subject to the SAR as determined on the date of grant; (e) the terms and conditions of exercise or maturity, including vesting; (f) the term, *provided* that an SAR must terminate no later than ten (10) years after the date of grant; and (g) whether the SAR will be settled in cash, Shares or a combination thereof.

9. Performance and Stock Awards. Subject to the terms of this Plan, the Administrator will determine all terms and conditions of each award of Shares, Restricted Stock, Restricted Stock Units, Performance Shares or Performance Units, including, but not limited to: (a) the number of Shares and/or units to which such Award relates; (b) whether, as a condition for the Participant to realize all or a portion of the benefit provided under the Award, one or more Performance Goals must be achieved during such period as the Administrator specifies; (c) the length of the vesting and/or performance period and, if different, the date on which payment of the benefit provided under the Award will be made; (d) with respect to Performance Units, whether to measure the value of each unit in relation to a designated dollar value or the Fair Market Value of one or more Shares; and (e) with respect to Restricted Stock Units and Performance Units, whether to settle such Awards in cash, in Shares (including Restricted Stock), or in a combination of cash and Shares; provided that no dividends or Dividend Equivalent Units shall be paid on Performance Shares or Performance Units prior to their vesting.

10. Annual Incentive Awards. Subject to the terms of this Plan, the Administrator will determine all terms and conditions of an Annual Incentive Award, including but not limited to the Performance Goals, performance period, the potential amount payable, and the timing of payment; *provided* that the Administrator must require that payment of all or any portion of the amount subject to the Annual Incentive Award is contingent on the achievement or partial achievement of one or more Performance Goals during the period the Administrator specifies, although the Administrator may specify that all or a portion of the Performance Goals subject to an Award are deemed achieved upon a Participant's death, Disability, or such other circumstances as the Administrator may specify; and *provided further* that any performance period applicable to an Annual

Incentive Award must relate to a period of at least one year.

11. Long-Term Incentive Awards. Subject to the terms of this Plan, the Administrator will determine all terms and conditions of a Long-Term Incentive Award, including, but not limited to, the Performance Goals, performance period (which must be more than one year), the potential amount payable, and the timing of payment; *provided* that the Administrator must require that payment of all or any portion of the amount subject to the Long-Term Incentive Award is contingent on the achievement or partial achievement of one or more Performance Goals during the period the Administrator specifies, although the Administrator may specify that all or a portion of the Performance Goals subject to an Award are deemed achieved upon a Participant's death, Disability or retirement (as defined by the Administrator), or such other circumstances as the Administrator may specify.

12. Dividend Equivalent Units. Subject to the terms of this Plan, the Administrator will determine all terms and conditions of each award of Dividend Equivalent Units, including but not limited to whether: (a) such Award will be granted in tandem with another Award; (b) payment of the Award will be made concurrently with dividend payments or credited to an account for the Participant which provides for the deferral of such amounts until a stated time; (c) the Award will be settled in cash or Shares; and (d) as a condition for the Participant to realize all or a portion of the benefit provided under the Award, one or more Performance Goals must be achieved during such period as the Administrator specifies; *provided* that Dividend Equivalent Units may not be granted in connection with an Option or Stock Appreciation Right; and *provided further* that no Dividend Equivalent Unit granted in tandem with another Award shall include vesting provisions more favorable to the Participant than the vesting provisions, if any, to which the tandem Award is subject; and *provided further* that no Dividend Equivalent Unit relating to another Award shall provide for payment with respect such other Award prior to its vesting.

13. Other Stock-Based Awards. Subject to the terms of this Plan, the Administrator may grant to a Participant shares of unrestricted Stock as replacement for other compensation to which the Participant is entitled, such as in payment of director fees, in lieu of cash compensation, in exchange for cancellation of a compensation right, or as a bonus.

14. Transferability. Awards are not transferable other than by will or the laws of descent and distribution, unless and to the extent the Administrator allows a Participant to: (a) designate in writing a beneficiary to exercise the Award or receive payment under the Award after the Participant's death; (b) transfer an Award to the former spouse of the Participant as required by a domestic relations order incident to a divorce; or (c) transfer an Award; *provided*, *however*, that with respect to clause (c) above the Participant may not receive consideration for such a transfer of an Award.

15. Termination and Amendment of Plan; Amendment, Modification or Cancellation of Awards.

(a) *Term of Plan.* Unless the Board earlier terminates this Plan pursuant to Section 15(b), this Plan will terminate on, and no further Awards may be granted under this Plan after, the tenth (10th) anniversary of the Effective Date.

(b) *Termination and Amendment*. The Board or the Administrator may amend, alter, suspend, discontinue or terminate this Plan at any time, subject to the following limitations:

(i) the Board must approve any amendment of this Plan to the extent the Company determines such approval is required by: (A) prior action of the Board, (B) applicable corporate law, or (C) any other applicable law;

(ii) shareholders must approve any amendment of this Plan to the extent the Company determines such approval is required by: (A) Section 16 of the Exchange Act, (B) the Code, (C) the listing requirements of any principal securities exchange or market on which the Shares are then traded, or (D) any other applicable law; and

(iii) shareholders must approve any of the following Plan amendments: (A) an amendment to materially increase any number of Shares specified in Section 6(a) or the limits set forth in Section 6(b)(except as permitted by Section 17), or (B) an amendment that would diminish the protections afforded by Section 15(e).

(c) *Amendment, Modification, Cancellation and Disgorgement of Awards.*

(i) Except as provided in Section 15(e) and subject to the requirements of this Plan, the Administrator may modify, amend or cancel any Award; *provided* that, except as otherwise provided in the Plan or the Award agreement, any modification or amendment that materially diminishes the rights of the Participant, or the cancellation of an Award, shall be effective only if agreed to by the Participant or any other person(s) as may then have an interest in such Award, but the Administrator need not obtain Participant (or other interested party) consent for the modification, amendment or cancellation of an Award pursuant to the provisions of subsection (ii) or Section 17 or as follows: (A) to the extent the Administrator deems such action necessary to comply with any applicable law or the listing requirements of any principal securities exchange or market on which the Shares are then traded; (B) to the extent the Administrator deems necessary to preserve favorable accounting or tax treatment of any Award for the Company; or (C) to the extent the Administrator determines that such action does not materially and adversely affect the value of an Award or that such action is in the best interest of the affected Participant (or any other person(s) as may then have an interest in the Award). Notwithstanding the foregoing, unless determined otherwise by the Administrator, any such amendment shall be made in a manner that will enable an Award intended to be exempt from Code Section 409A to continue to be so exempt, or to enable an Award intended to comply with Code Section 409A to continue to so comply.

(ii) Notwithstanding anything to the contrary in an Award agreement, the Administrator shall have full power and authority to terminate or cause the Participant to forfeit the Award, and require the Participant to disgorge to the Company any gains attributable to the Award, if the Participant engages in any action constituting, as determined by the Administrator in its discretion, Cause for termination, or a breach of any Award agreement or any other agreement between the Participant and the Company or an Affiliate concerning noncompetition, nonsolicitation, confidentiality, trade secrets, intellectual property, nondisparagement or similar obligations.

(iii) Any Awards granted pursuant to this Plan, and any Stock issued, or cash paid pursuant to an Award, shall be subject to any recoupment or clawback policy that is adopted by, or any recoupment or similar requirement otherwise made applicable by law, regulation or listing standards to, the Company from time to time.

(d) *Survival of Authority and Awards*. Notwithstanding the foregoing, the authority of the Board and the Administrator under this Section 15 and to otherwise administer the Plan with respect to then-outstanding Awards will extend beyond the date of this Plan's termination. In addition, termination of this Plan will not affect the rights of Participants with respect to Awards previously granted to them, and all unexpired Awards will continue in force and effect after termination of this Plan except as they may lapse or be terminated by their own terms and conditions.

(e) *Repricing and Backdating Prohibited*. Notwithstanding anything in this Plan to the contrary, and except for the adjustments provided for in Section 17, at such time as the Company's common stock is listed on the Nasdaq Stock Market or New York Stock Exchange, neither the Administrator nor any other person may (i) amend the terms of outstanding Options or SARs to reduce the exercise or grant price of such outstanding Options or SARs; (ii) cancel outstanding Options or SARs in exchange for Options or SARs with an exercise or grant price that is less than the exercise or grant price of the original Options or SARs; or (iii) cancel outstanding Options or SARs with an exercise or grant price above the current Fair Market Value of a Share in exchange for cash or other securities. In addition, the Administrator may not make a grant of an Option or SAR with a grant date that is effective prior to the date the Administrator takes action to approve such Award.

(f) *Foreign Participation*. To assure the viability of Awards granted to Participants employed or residing in foreign countries, the Administrator may provide for such special terms as it may consider necessary or appropriate to accommodate differences in local law, tax policy, accounting or custom. Moreover, the Administrator may approve such supplements to, or amendments, restatements or alternative versions of, this Plan as it determines is necessary or appropriate for such purposes. Any such amendment, restatement, or alternative versions that the Administrator approves for purposes of using this Plan in a foreign country will not affect the terms of this Plan for any other country. In addition, all such supplements, amendments, restatements or alternative versions must comply with the provisions of Section 15(b)(ii).

16. Taxes.

(a) *Withholding*. In the event the Company or one of its Affiliates is required to withhold any Federal, state or local taxes or other amounts in respect of any income recognized by a Participant as a result of the grant, vesting, payment or settlement of an Award or disposition of any Shares acquired under an Award, the Company may deduct (or require an Affiliate to deduct) from any payments of any kind otherwise due the Participant cash, or with the consent of the Administrator, Shares otherwise deliverable or vesting under an Award, to satisfy such tax or other obligations. Alternatively, the Company or its Affiliate may require such Participant to pay to the Company or its Affiliate, in cash, promptly on demand, or make other arrangements satisfactory to the Company or its Affiliate regarding the payment to the Company or its Affiliate of the aggregate amount of any such taxes and other amounts. If Shares are deliverable upon exercise or payment of an Award, then the Administrator may permit a Participant to satisfy all or a portion of the Federal, state and local withholding tax obligations arising in connection with such Award by electing to (i) have the Company or its Affiliate withhold Shares otherwise issuable under the Award, (ii) tender back Shares received in connection with such Award or (iii) deliver other previously owned Shares, in each case having a Fair Market Value equal to the amount to be withheld; *provided* that the amount to be withheld in Shares may not exceed the total maximum statutory tax withholding obligations associated with the transaction to the extent needed for the Company and its Affiliates to avoid an accounting charge. If an election is provided, the election must be made on or before the date as of which the amount of tax to be withheld is determined and otherwise as the Administrator requires. In any case, the Company and its Affiliates may defer making payment or delivery under any Award if any such tax may be pending unless and until indemnified to its satisfaction.

(b) *No Guarantee of Tax Treatment*. Notwithstanding any provisions of this Plan to the contrary, the Company does not guarantee to any Participant or any other Person with an interest in an Award that (i) any Award intended to be exempt from Code Section 409A shall be so exempt, (ii) any Award intended to comply with Code Section 409A or Code Section 422 shall so comply, or (iii) any Award shall otherwise receive a specific tax treatment under any other applicable tax law, nor in any such case will the Company or any Affiliate be required to indemnify, defend or hold harmless any individual with respect to the tax consequences of any Award.

17. Adjustment and Change of Control Provisions.

(a) *Adjustment of Shares.* If (i) the Company shall at any time be involved in a merger or other transaction in which the Shares are changed or exchanged; (ii) the Company shall subdivide or combine the Shares or the Company shall declare a dividend payable in Shares, other securities (other than stock purchase rights issued pursuant to a shareholder rights agreement) or other property; (iii) the Company shall effect a cash dividend the amount of which, on a per Share basis, exceeds ten percent (10%) of the Fair Market Value of a Share at the time the dividend is declared, or the Company shall effect any other dividend or other distribution on the Shares in the form of cash, or a repurchase of Shares, that the Board determines by resolution is special or extraordinary in nature or that is in connection with a transaction that the Company characterizes publicly as a recapitalization or reorganization involving the Shares; or (iv) any other event shall occur, which, in the case of this clause (iv), in the judgment of the Administrator necessitates an adjustment to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under this Plan, then the Administrator shall, in such manner as it may deem equitable to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under this Plan, adjust any or all of: (A) the number and type of Shares subject to this Plan (including the number and type of Shares described in Sections 6(a) and 6(c)) and which may after the event be made the subject of Awards; (B) the number and type of Shares subject to outstanding Awards; (C) the grant, purchase, or exercise price with respect to any Award; and (D) the Performance Goals of an Award. In any such case, the Administrator may also (or in lieu of the foregoing) make provision for a cash payment to the holder of an outstanding Award in exchange for the cancellation of all or a portion of the Award (without the consent of the holder of an Award) in an amount determined by the Administrator effective at such time as the Administrator specifies (which may be the time such transaction or event is effective). However, in each case, with respect to Awards of Incentive Stock Options, no such adjustment may be authorized to the extent that such authority would cause this Plan to violate Code Section 422(b). Further, the number of Shares subject to any Award payable or denominated in Shares must always be a whole number. In any event, previously granted Options or SARs are subject to only such adjustments as are necessary to maintain the relative proportionate interest the Options and SARs represented immediately prior to any such event and to preserve, without exceeding, the value of such Options or SARs.

Without limitation, in the event of any reorganization, merger, consolidation, combination or other similar corporate transaction or event, whether or not constituting a Change of Control (other than any such transaction in which the Company is the continuing corporation and in which the outstanding Stock is not being converted into or exchanged for different securities, cash or other property, or any combination thereof), the Administrator may substitute, on an equitable basis as the Administrator determines, for each Share then subject to an Award and the Shares subject to this Plan (if the Plan will continue in effect), the number and kind of shares of stock, other securities, cash or other property to which holders of Stock are or will be entitled in respect of each Share pursuant to the transaction.

(b) *Issuance or Assumption*. Notwithstanding any other provision of this Plan, and without affecting the number of Shares otherwise reserved or available under this Plan, in connection with any merger, consolidation, acquisition of property or stock, or reorganization, the Administrator may authorize the issuance or assumption of awards under this Plan upon such terms and conditions as it may deem appropriate.

(c) *Effect of Change of Control*

(i) In order to preserve a Participant's rights under an Award in the event of a Change of Control, the Administrator in its discretion may, at the time an Award is made or at any time thereafter, take one or more of the following actions: (a) provide for the acceleration of any time period, or the deemed achievement of any Performance Goals, relating to the exercise or realization of the Award; (b) provide for the purchase or cancellation of the Award for an amount of cash or other property that could have been received upon the exercise or realization of the Award had the Award been currently exercisable or payable (or the cancellation of Awards in exchange for no payment to the extent that no cash or other property would be received upon the exercise or realization of the Award in such circumstances); (c) adjust the terms of the Award in the manner determined by the Administrator to reflect the Change of Control; (d) cause the Award to be assumed, or new right substituted therefor, by another entity; or (e) make such other provision as the Administrator may consider equitable and in the best interests of the Company.

(ii) Except to the extent the Participant has in effect an employment or similar agreement with the Company or any Affiliate or is subject to a policy that provides for a more favorable result to the Participant upon a Change of Control, in the event that the Company's legal counsel or accounting advisor determines that any payment, benefit or transfer by the Company under this Plan or any other plan, agreement, or arrangement to or for the benefit of the Participant (in the aggregate, the "Total Payments") would be subject to the tax ("Excise Tax") imposed by Code Section 4999 but for this subsection (d), then, notwithstanding any other provision of this Plan to the contrary, the Total Payments shall be delivered either (i) in full or (ii) in an amount such that the value of the aggregate Total Payments that the Participant is entitled to receive shall be One Dollar ($1.00) less than the maximum amount that the Participant may receive without being subject to the Excise Tax, whichever of clause (i) or (ii) results in the receipt by the Participant of the greatest benefit on an after-tax basis (taking into account applicable federal, state and local income taxes and the Excise Tax). In the event that clause (ii) results in a greater after-tax benefit to the Participants, payments or benefits included in the Total Payments

shall be reduced or eliminated by applying the following principles, in order: (A) the payment or benefit with the higher ratio of the parachute payment value to present economic value (determined using reasonable actuarial assumptions) shall be reduced or eliminated before a payment or benefit with a lower ratio; (B) the payment or benefit with the later possible payment date shall be reduced or eliminated before a payment or benefit with an earlier payment date; and (C) cash payments shall be reduced prior to non-cash benefits; provided that if the foregoing order of reduction or elimination would violate Code Section 409A, then the reduction shall be made pro rata among the payments or benefits included in the Total Payments (on the basis of the relative present value of the parachute payments).

(d) *Certain Modifications*. Notwithstanding anything contained in this Section 17, the Board may, in its sole and absolute discretion, amend, modify or rescind the provisions of this Section 17 if it determines that the operation of this Section 17 may prevent a transaction in which the Company, a Subsidiary or any Affiliate is a party from receiving desired tax treatment, including without limitation requiring that each Participant receive a replacement or substitute Award issued by the surviving or acquiring corporation.

18. Stock Transfer Restrictions and Repurchase Right.

(a) *Restriction on Transfer*. Shares issued under the Plan may not be sold or otherwise disposed of except as permitted by the Company. As a condition to the receipt of Shares hereunder, the Participant (or individual entitled to receive Shares following the Participant's death) may be required to execute a stockholder's agreement or other agreement required by the Board.

(b) *Restrictions; Legends.* All Shares delivered under the Plan shall be subject to such restrictions as the Company may deem advisable, and the Company may cause a legend or legends to be put on any certificates for shares to make appropriate references to such restrictions.

(c) *Right to Purchase Shares.* Pursuant to the provisions of this Section 18(c), the Company shall have the right (the "Purchase Right"), but not the obligation, to purchase all, but not less than all, of the Shares acquired by the Participant under this Plan upon the occurrence of any of the following events (a "Trigger Date"):

(i) the Participant's separation from employment or service from the Company and its Affiliates, or

(ii) the Participant's attempted or purported sale, assignment, exchange, disposition, distributions, transfer, pledge, encumbrance, hypothecation or other disposition or alienation of Shares acquired under the Plan without the Company's prior written consent.

The purchase price (the "Purchase Price") for the Shares subject to such Purchase Right shall be the Fair Market Value of the Shares on the applicable Trigger Date, unless (A) the Participant's employment has been terminated for Cause, (B) the Company determines that the Participant's employment could have been terminated for Cause, or (C) the Participant breaches any restrictive covenants set forth in any agreement by and between the Participant and the Company or any of its Subsidiaries, then in each case the purchase price shall be the lower of (x) the Fair Market Value of the Shares on the applicable Trigger Date and (y) the cost paid by the Participant to acquire the Shares.

The Company may exercise its Purchase Right by giving written notice thereof to the Participant within one (1) year after the Trigger Date (the one (1)-year period in each case, the "Call Period") of the number of Shares with respect to which the Purchase Right is being exercised, and the Company intends that such date shall not be earlier than the first date on which the Purchase Price can be set without changing the accounting treatment for the acquisition of the Shares being repurchased from an equity-based accounting treatment to a liability-based accounting treatment (as contemplated by FASB ASC Topic 718 or any successor thereto). The Company shall promptly determine the Purchase Price for the Shares subject to the Purchase Right and shall notify the Participant of such determination. The Company may elect to pay all or any portion of such Purchase Price in cash; *provided* that if the Company does not elect to pay the entire Purchase Price in cash, the Company shall, at a minimum, pay to the Participant at least ten percent (10%) of the Purchase Price in cash, and shall deliver to the Participant a promissory note with a principal amount equal to the remainder of the Purchase Price, which promissory note shall provide that: (A) the principal shall be paid in no more than five (5) equal annual installments commencing one (1) year from the delivery of such promissory note, (B) interest on the unpaid principal amount shall accrue at an annual rate equal to the prime interest rate interest charged by the principal bank with which the Company conducts business as determined on the date the promissory note is issued, and shall be payable together with and in addition to each principal payment, and (C) the Company shall have the right, without penalty, to prepay all or any portion of the principal and accrued interest owing thereunder at any time.

Upon the delivery of the payment and/or the promissory note described herein by the Company, the Participant shall take all actions necessary, and execute all related documents specified by the Company as being reasonably necessary to consummate the sale of the Shares to the Company, and, by accepting an award under this Plan, the Participant appoints the Company's Secretary as his or her true and lawful attorney-in-fact to exercise and deliver all such instruments, documents and writings, and to take all such actions as shall be required to consummate the sale of the Shares to the Company as contemplated in this Section. Such power is a special Power of Attorney coupled with an interest, is irrevocable, and shall run with the shares to any subsequent owners thereof.

(d) *Termination Upon Initial Public Offering*. The Company's right to exercise its repurchase rights under Section 18(c) shall terminate upon the closing of the Company's first underwritten public offering of equity securities pursuant to an effective registration statement under the Act.

19. Drag-Along Rights.

(a) If the Board or a group of shareholders that, in the aggregate, owns a majority of the voting power of the Company, receives an offer in a transaction or series of transactions pursuant to which a third party proposes to acquire all of the equity securities of the Company (a "Drag-Along Transaction"), any shareholder or any group of shareholders of the Company that, in the aggregate, owns a majority of the voting power of the Company (collectively, the "Drag- Along Shareholder") shall have the right, at its option, to require the other shareholders of the Company, including any Participant who acquires Shares under this Plan (each such shareholder, a "Dragged Shareholder," and collectively with any other Dragged Shareholder, the "Dragged Shareholders"), and each Dragged Shareholder hereby agrees, whether such Drag- Along Transaction is structured as a transfer of equity securities, merger, consolidation, combination, reorganization, recapitalization, reclassification or otherwise, to transfer all of such Dragged Shareholder's equity securities on substantially the same terms and conditions as are applicable to the Drag-Along Shareholder; *provided* that the price per share for each equity security to be sold in such Drag-Along Transaction shall be determined by first allocation a portion of the aggregate consideration to be paid by the buyer(s) in such Drag-Along Transaction to the holders of the Series A Preferred Stock in the amount of any accrued but unpaid dividends thereon and then allocation the remainder of such aggregate consideration to the equity securities to be sold in such Drag-Along Transaction ratably on an as-converted basis.

(b) Each Dragged Shareholder shall reasonably cooperate in, and shall take all actions requested by the Drag-Along Shareholder that are reasonably necessary or desirable to consummate, the Drag-Along Transaction, including: (i) to the extent applicable, voting its equity securities (or executing and delivering any written consents in lieu thereof) in favor of the Drag- Along Transaction and all actions deemed reasonably necessary by the Drag- Along Shareholder in connection with the Drag-Along Transaction; (ii) if applicable, taking all actions necessary to cause the Board to approve the Drag-Along Transaction; and (iii) entering into definitive agreements as are customary for the nature of the proposed Drag-Along Transaction and any ancillary agreements with respect thereto, and using commercially reasonable efforts (including indemnification obligations on a ratable basis) to cause the transactions contemplated by such definitive agreements and ancillary agreements to be consummated.

(c) Without limitation of the foregoing, each shareholder waives any dissenters, appraisal or other similar rights it may have in connection with any sale of the Company under applicable law that is approved or instituted pursuant to this Section 19.

(d) The Drag-Along Shareholder shall provide written notice of such Drag-Along Transaction to each Dragged Shareholder (a "Drag-Along Transaction Notice"). The Drag-Along Transaction Notice shall identify the proposed transferee, the consideration for which a transfer is proposed to be made and all other material terms and conditions of the Drag-Along Transaction. Each Dragged Shareholder shall be required to participate in the Drag-Along Transaction on the terms and conditions set forth in the Drag-Along Transaction Notice.

(e) Notwithstanding anything to the contrary in this Section 19, there shall be no liability on the part of the Drag-Along Shareholder to the Company or the Dragged Shareholders if the Drag-Along Transaction is not consummated for whatever reason, regardless of whether the Drag-Along Shareholder has delivered a Drag-Along Transaction Notice. The decision to effect a Drag-Along Transaction is in the sole and absolute discretion of the Drag-Along Shareholder.

(f) The foregoing shall not affect the rights of the Company or the Administrator under Section 17 (or elsewhere) of this Plan.

20. Miscellaneous.

(a) *Other Terms and Conditions.* The Administrator may provide in any Award agreement such other provisions (whether or not applicable to the Award granted to any other Participant) as the Administrator determines appropriate to the extent not otherwise prohibited by the terms of the Plan.

(b) *Employment and Service*. The issuance of an Award shall not confer upon a Participant any right with respect to continued employment or service with the Company or any Affiliate, or the right to continue as a Director. Unless determined otherwise by the Administrator, for purposes of the Plan and all Awards, the following rules shall apply:

(i) a Participant who transfers employment between the Company and its Affiliates, or between Affiliates, will not be considered to have terminated employment;

(ii) a Participant who ceases to be a Non-Employee Director because he or she becomes an employee of the Company, or an Affiliate shall not be considered to have ceased service as a Director with respect to any Award until such Participant's termination of employment with the Company and its Affiliates;

(iii) a Participant who ceases to be employed by the Company or an Affiliate and immediately thereafter becomes a Non-Employee Director, a non-employee director of an Affiliate, or a consultant to the Company or any Affiliate shall not be considered to have terminated employment until such Participant's service as a director of, or consultant to, the Company and its Affiliates has ceased; and

(iv) a Participant employed by an Affiliate will be considered to have terminated employment when such entity ceases to be an Affiliate.

Notwithstanding the foregoing, for purposes of an Award that constitutes "nonqualified deferred compensation" subject to Code Section 409A, if a Participant's termination of employment or service triggers the payment of such nonqualified deferred compensation under such Award, then the Participant will be deemed to have terminated employment or service upon his or her "separation from service" within the meaning of Code Section 409A. Notwithstanding any other provision in this Plan or an Award to the contrary, if any Participant is a "specified employee" within the meaning of Code Section 409A as of the date of his or her "separation from service" within the meaning of Code Section 409A, then, to the extent required to avoid the imposition of additional taxes under Code Section 409A, any payment of nonqualified deferred compensation made to the Participant on account of such separation from service shall not be made before a date that is six (6) months after the date of the separation from service.

(c) *No Fractional Shares.* No fractional Shares or other securities may be issued or delivered pursuant to this Plan, and the Administrator may determine whether cash, other securities or other property will be paid or transferred in lieu of any fractional Shares or other securities, or whether such fractional Shares or other securities or any rights to fractional Shares or other securities will be canceled, terminated, or otherwise eliminated.

(d) *Unfunded Plan; Awards Not Includable for Benefits Purposes.* This Plan is unfunded and does not create, and should not be construed to create a trust or separate fund with respect to this Plan's benefits. This Plan does not establish any fiduciary relationship between the Company and any Participant or other person. To the extent any person holds any rights by virtue of an Award granted under this Plan, such rights are no greater than the rights of the Company's general unsecured creditors. Income recognized by a Participant pursuant to an Award shall not be included in the determination of benefits under any employee pension benefit plan (as such term is defined in Section 3(2) of the Employee Retirement Income Security Act of 1974, as amended) or group insurance or other benefit plans applicable to the Participant which are maintained by the Company or any Affiliate, except as may be provided under the terms of such plans or determined by resolution of the Board.

(e) *Requirements of Law and Securities Exchange.* The granting of Awards and the issuance of Shares in connection with an Award are subject to all applicable laws, rules and regulations and to such approvals by any governmental agencies or national securities exchanges as may be required. Notwithstanding any other provision of this Plan or any award agreement, the Company has no liability to deliver any Shares under this Plan or make any payment unless such delivery or payment would comply with all applicable laws and the applicable requirements of any securities exchange or similar entity, and unless and until the Participant has taken all actions required by the Company in connection therewith. The Company may impose such restrictions on any Shares issued under the Plan as the Company determines necessary or desirable to comply with all applicable laws, rules and regulations or the requirements of any national securities exchanges.

(f) *Governing Law; Venue*. This Plan, and all agreements under this Plan, will be construed in accordance with and governed by the laws of the State of Florida, without reference to any conflict of law principles. Any legal action or proceeding with respect to this Plan, any Award or any award agreement, or for recognition and enforcement of any judgment in respect of this Plan, any Award or any award agreement, may only be brought and determined in a court sitting in the State of Florida.

(g) *Limitations on Actions.* Any legal action or proceeding with respect to this Plan, any Award or any award agreement, must be brought within one (1) year after the day the complaining party first knew or should have known of the events giving rise to the complaint.

(h) *Construction*. Whenever any words are used herein in the masculine, they shall be construed as though they were used in the feminine in all cases where they would so apply; and wherever any words are used in the singular or plural, they shall be construed as though they were used in the plural or singular, as the case may be, in all cases where they would so apply. Titles of sections are for general information only, and this Plan is not to be construed with reference to such titles. The title, label or characterization of an Award in an award agreement or in the Company's public filings or other disclosures shall not be determinative as to which specific Award type is represented by the award agreement. Instead, the Administrator may determine which specific type(s) of Award(s) is (are) represented by any award agreement, at the time such Award is granted or at any time thereafter. Except to the extent otherwise provided in the applicable award agreement, in the case of any Award that includes a "series of installment payments" (within the meaning of Section 1.409A-2(b)(2)(iii) of the Treasury Regulations), the Award holder's right to the series of installment payments shall be treated as a right to a series of separate payments and not as a right to a single payment.

(i) *Severability*. If any provision of this Plan or any award agreement or any Award (a) is or becomes or is deemed to be invalid, illegal or unenforceable in any jurisdiction, or as to any person or Award, or (b) would cause this Plan, any award agreement or any Award to violate or be disqualified under any law the Administrator deems applicable, then such provision should be construed or deemed amended to conform to applicable laws, or if it cannot be so construed or deemed amended without, in the

determination of the Administrator, materially altering the intent of this Plan, award agreement or Award, then such provision should be stricken as to such jurisdiction, person or Award, and the remainder of this Plan, such award agreement and such Award will remain in full force and effect.

MIRA PHARMACEUTICALS, INC.
2022 OMNIBUS INCENTIVE PLAN
STOCK OPTION AWARD

[PARTICIPANTID]
[FIRSTNAME] [LASTNAME]

You have been granted an option (your "Option") to purchase shares ("Shares") of Common Stock of MIRA Pharmaceuticals, Inc. (the "Company") under the MIRA Pharmaceuticals, Inc. 2022 Omnibus Incentive Plan, as amended and restated (the "Plan"), effective as of the Grant Date, with the following terms and conditions:

Grant Date:	[_____], [___]
Vesting Commencement Date	[_____], 20[____]
Type of Option:	[Nonqualified Stock Option] [Incentive Stock Option]
Number of Option Shares:	[SHARES GRANTED]
Exercise Price per Share:	U.S. $[_____]
Vesting:	The Option will vest and become exercisable as follows [_____], provided that you remain in continuous employment or service with the Company or an Affiliate until the applicable vesting date. Notwithstanding the foregoing, the unvested portion of the Option will vest in full upon a Change of Control, if you are continuously employed with, or in the service of, the Company or an Affiliate thereof through the day preceding the date of the Change of Control. Upon your termination of employment, or cessation of services to, the Company and its Affiliates prior to the date the Option is fully vested, you will forfeit the unvested portion of the Option.
Termination Date:	Your Option expires at, and cannot be exercised after, the earliest to occur of: ● The tenth (10th) anniversary of the Grant Date; ● 12 months after your termination of employment or service as a result of death or disability (as determined by the Administrator); ● Your termination of employment or service for Cause; or ● 90 days after your termination of employment or service for any other reason, provided that if you die during this 90-day period, the exercise period will be extended until 12 months after the date of your death.

If the date this Option terminates as specified above falls on a day on which the stock market is not open for trading or on a date on which you are prohibited by Company policy (such as an insider trading policy) from exercising the Option, the termination date shall be automatically extended to the first available trading day following the original termination date, but not beyond the tenth (10th) anniversary of the Grant Date.

Manner of Exercise:	You may exercise your Option only to the extent vested and only if it has not terminated. To exercise your Option, you must complete the "Notice of Stock Option Exercise" form provided by the Company and return it to the address or send it via facsimile or email as indicated on the form, or use the equity platform or other exercise procedure prescribed by the Company. The exercise will not be completed until you pay the total exercise price and all applicable withholding taxes due as a result of the exercise to the Company and, to the extent prescribed by the Company, until you have executed a joinder agreement to any stockholders agreement or similar agreement maintained by the Company and provided any investment representation required by the Company. If someone else wants to exercise your Option after your death, that person must contact the Company and prove to the Company's satisfaction that he or she is entitled to do so. Your ability to exercise your Option may be restricted by the Company if required by applicable law. No fractional Shares shall be issued pursuant to the grant or exercise of this Option. The Administrator shall determine whether the cash value of such fraction shall be paid or whether the fraction shall be canceled for no consideration.
Market Stand-Off:	In connection with any underwritten public offering by the Company of its equity securities pursuant to an effective registration statement filed under the Securities Act of 1933, as amended, you agree that you shall not directly or indirectly sell, make any short sale of, loan, hypothecate, pledge, offer, grant or sell any option or other contract for the purchase of, purchase any option or other contract for the sale of, or otherwise dispose of or transfer or agree to engage in any of the foregoing transactions with respect to, any Shares acquired under this Stock Option Award without the prior written consent of the Company. Such restriction shall be in effect for such period of time following the date of the final prospectus for the offering as may be determined by the Company. In no event, however, shall such period exceed one hundred eighty (180) days.

Restrictions on Transfer: Your Option and all rights hereunder shall be non-assignable and non-transferable other than by will or the laws of descent and distribution and shall be exercisable during your lifetime only by you or your guardian or legal representative.

Taxes: You (and not the Company or any Affiliate) shall be responsible for your federal, state, local or foreign tax liability and any of your other tax consequences that may arise as a result of the transactions contemplated by this Option. You shall rely solely on the determinations of your own tax advisors or your own determinations, and not on any statements or representations by the Company or any of its agents, with regard to all such tax matters. To the extent that the receipt, vesting or exercise of this Option, or other event, results in income to you for federal, state or local income tax purposes, you shall deliver to the Company or its Affiliate at the time the Company or its Affiliate is obligated to withhold taxes in connection with such receipt, vesting, exercise or other event, as the case may be, such amount as the Company or its Affiliate requires to meet its withholding obligation under applicable tax laws or regulations, and if you fail to do so, the Company shall not be obligated to deliver any Shares to you and shall have the right and authority to deduct or withhold from other compensation payable to you an amount sufficient to satisfy its withholding obligations.

To the extent permitted by the Company at the time a tax withholding requirement arises, you may satisfy the withholding requirement in whole or in part, by electing to have the Company withhold for its own account that number of Shares otherwise deliverable to you upon exercise having an aggregate Fair Market Value on the date the tax is to be determined equal to the tax that the Company must withhold in connection with the exercise; provided that the amount so withheld shall not exceed the maximum statutory rate to the extent necessary to avoid an accounting charge. The Fair Market Value of any fractional Share not used to satisfy the withholding obligation (as determined on the date the tax is determined) will be paid to you in cash.

Miscellaneous:

- Neither the Plan nor the grant of the Option shall constitute or be evidence of any agreement or understanding, express or implied, that you have a right to continue as an employee of the Company or any of its Affiliates for any period of time, or at any particular rate of compensation.
- The Plan and this Option constitute the entire understanding of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements between you and the Company with respect to the subject matter hereof. You expressly warrant that you are not accepting this Option in reliance on any promises, representations, or inducements other than those contained herein.

- By accepting the grant of your Option, you agree not to sell any Shares acquired in connection with your Option other than as set forth in the Plan and at a time when applicable laws, Company policies or an agreement between the Company and its underwriters do not prohibit a sale.
- As a condition of the granting of your Option, you agree, for yourself and your legal representatives or guardians, that this Stock Option Award shall be interpreted by the Committee and that any interpretation by the Committee of the terms of this Stock Option Award or the Plan and any determination made by the Committee pursuant to this Stock Option Award or the Plan shall be final, binding and conclusive.
- Subject to the terms of the Plan, the Committee may modify or amend this Stock Option Award without your consent as permitted by Section 15(c) of the Plan or: (i) to the extent such action is deemed necessary by the Committee to comply with any applicable law or the listing requirements of any principal securities exchange or market on which Shares are then traded; (ii) to the extent the action is deemed necessary by the Committee to preserve favorable accounting or tax treatment of any award for the Company; or (iii) to the extent the Committee determines that such action does not materially and adversely affect the value of this Stock Option Award or that such action is in the best interest of you or any other person who may then have an interest in this Stock Option Award.
- This Stock Option Award may be executed in counterparts.

Your Option is granted under and governed by the terms and conditions of the Plan, including provisions of the Plan relating to the right of the Company to repurchase Shares issued pursuant to the Plan. The terms of the Plan to the extent not stated herein are expressly incorporated herein by reference and in the event of any conflict between this Option and the Plan, the terms of the Plan shall govern, control and supersede over the provisions of this Option. Capitalized terms used in this Option and not defined shall have the meanings given in the Plan.

BY ACCEPTING THIS STOCK OPTION AWARD, YOU AGREE TO ALL OF THE TERMS AND CONDITIONS DESCRIBED HEREIN AND IN THE PLAN. YOU ALSO ACKNOWLEDGE RECEIPT OF THE PLAN.

MIRA PHARMACEUTICALS, INC.	OPTIONEE
By: _____	_____
[EXECUTIVE] [POSITION]	[OPTIONEE]
Date: _____	

MIRA PHARMACEUTICALS, INC.
NOTICE OF STOCK OPTION EXERCISE

Your completed form should be delivered to: _____, _____.
Phone: _____ Fax: _____ Email: _____
Incomplete forms may cause a delay in processing your option exercise.

OPTIONEE INFORMATION

Please complete the following. PLEASE WRITE YOUR FULL LEGAL NAME SINCE THIS NAME MAY BE ON YOUR SHARES.

Name: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Work Phone #: (_____) - _____- _____ Home Phone #: (_____) - _____- _____

Social Security #: _____ - _____ - _____

DESCRIPTION OF OPTION(S) BEING EXERCISED

Please complete the following for each option that you wish to exercise.

Grant Date	Exercise Price Per Share	Number of Option Shares Being Purchased	Total Exercise Price (multiply Exercise Price Per Share by Number of Option Shares Being Purchased)
	$		$
	$		$
	$		$
	$		$
	$		$
		Aggregate Exercise Price	$

Exhibit 10.3

INDEMNIFICATION AGREEMENT

This Indemnification Agreement (the "Indemnification Agreement") is made and entered into as of _____, _____, by and between **MIRA PHARMACEUTICALS, INC.**, a Florida corporation (the "Company"), and _____, an individual ("Indemnitee").

WHEREAS, it is essential to the Company to retain and attract qualified directors and officers;

WHEREAS, Indemnitee is a director and/or officer of the Company or one or more of its subsidiaries;

WHEREAS, the Company and Indemnitee recognize the risk of litigation and other claims being asserted against directors and officers of public companies;

WHEREAS, the Amended and Restated Articles of Incorporation (the "Articles") of the Company authorizes the Company to indemnify and advance expenses to its directors and officers to the full extent permitted by law, and Indemnitee has been serving and continues to serve as a director and/or officer of the Company in part in reliance upon the Articles; and,

WHEREAS, in recognition of (1) Indemnitee's need for substantial protection against personal liability; (2) the Company's need to induce Indemnitee's continued service to the Company in an effective manner; and (3) Indemnitee's reliance on the Articles, and to provide Indemnitee with specific contractual assurance that the protection contained in the Articles will be available to Indemnitee (regardless of, among other things, any amendment to or restatement of the Articles or any changes in the composition of the Company's Board of Directors or any Change in Control or business combination in which the Company participates), the Company wishes to provide in this Indemnification Agreement for the indemnification of and the advancing of expenses to Indemnitee to the full extent (whether partial or complete) permitted by law and as set forth in this Indemnification Agreement and, if insurance is obtained, for the coverage of Indemnitee under the Company's directors' and officers' liability insurance policies.

NOW, THEREFORE, in consideration of the premises, the mutual promises, covenants and conditions herein contained, Indemnitee continuing to serve the Company directly, or at its request, to serve another enterprise, and for other good and valuable considerations, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, hereby agree as follows:

1. **Certain Definitions**. In addition to the words and terms elsewhere defined in this Indemnification Agreement, certain capitalized words and terms used herein shall have the meanings given to them by the definitions and descriptions in this Section 1, unless the context or use indicates another or different meaning or intent, and such definitions shall be equally applicable to both the singular and plural forms of any of the capitalized words and terms herein defined. The following words and terms are defined terms under this Indemnification Agreement:

   a. Change in Control. "Change in Control" shall be deemed to have occurred if (i) any "person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended ("Exchange Act")), other than a trustee or other fiduciary holding securities under an employee benefit plan of the Company or a corporation owned directly or indirectly by the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company, is or becomes the "beneficial owner" (as defined in Rule 13-d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing 20% or more of the total voting power represented by the Company's then outstanding Voting Securities (unless such change in beneficial ownership results solely from a reduction in the aggregate number of outstanding shares of Voting Securities); (ii) during any period of two consecutive years, not including any period prior to the execution of this Indemnification Agreement, individuals who at the beginning of such period constitute the Board of Directors of the Company (and any new director whose election by the Board of Directors or nomination for election by the Company's stockholders was approved by a vote of at least two-thirds (2/3) of the directors then still in office who either were directors at the beginning of the period or whose election or nomination for election was previously so approved), cease for any reason to constitute a majority thereof; or (iii) the stockholders of the Company approve a merger or consolidation of the Company with any other corporation, other than a merger or consolidation which would result in the Voting Securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into Voting Securities of the surviving entity) at least 80% of the total voting power represented by the Voting Securities of the Company or such surviving entity outstanding immediately after such merger or consolidation, or (iv) the stockholders of the Company approve a plan of complete liquidation of the Company or an agreement for the sale or disposition by the Company of (in one transaction or a series of transactions) all or substantially all the Company's assets.

   b. Claim. "Claim" means any threatened, pending or completed action, suit, proceeding or alternative dispute resolution, or any inquiry or investigation, whether instituted by the Company or any other person or party, that Indemnitee, in good faith, reasonably determines might lead to the institution of any such action, suit, proceeding or alternative dispute resolution, whether civil, criminal, administrative, arbitrative, investigative or other, and whether made pursuant to federal, state or other law.

   c. Expenses. "Expenses" means all expenses, including attorneys' fees and all other costs, expenses and obligations paid or incurred in connection with investigating, defending, being a witness in or participating in (including on appeal), or preparing to defend, be a witness in or participate in any Claim relating to any Indemnifiable Event. Expenses also shall include (i) Expenses incurred in connection with any appeal resulting from any Claim, including without limitation the premium, security for, and other costs relating to any cost bond, supersedeas bond, or other appeal bond or its equivalent, and (ii) for purposes of Section 4 only, Expenses incurred by Indemnitee in connection with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement, by litigation or otherwise. Expenses, however, shall not include amounts paid in settlement of any threatened or pending Claim by Indemnitee or the amount of judgments or fines against Indemnitee.

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   d. Indemnifiable Event. "Indemnifiable Event" means any event or occurrence, whether on or after the date of this Agreement, related to the fact that Indemnitee is or was a director, officer, employee, trustee or agent of the Company or any subsidiary of the Company, or is or was serving at the request of the Company as a director, officer, member, manager, employee, trustee, agent or fiduciary of another corporation, limited liability company, partnership, joint venture, employee benefit plan, trust or other entity or enterprise, or by reason of anything done or not done by Indemnitee in any such capacity.

   e. Independent Legal Counsel. "Independent Legal Counsel" means an attorney or firm of attorneys, selected in accordance with the provisions of this Agreement, who is experienced in matters of corporation law and who shall not have otherwise been retained by or performed services within the last three years for (i) the Company or Indemnitee (other than with respect to matters concerning the rights of Indemnitee under this Indemnification Agreement or of other indemnities under similar indemnification agreements) or (ii) any other party to the Claim giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term "Independent Legal Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee's rights under this Agreement.

f. "Losses." "Losses" means any and all Expenses, damages, losses, liabilities, judgments, fines, penalties (whether civil, criminal or other), ERISA excise taxes, amounts paid or payable in settlement, including any interest, assessments, and all other charges paid or payable in connection with investigating, defending, being a witness in or participating in (including on appeal), or preparing to defend, be a witness or participate in, any Claim.

g. Qualified Director. "Qualified Director" means a director who, at the time action is to be taken under this Agreement:

i. is not and was not a party to the Claim in respect of which indemnification is sought by Indemnitee;

ii. is not a director as to whom a transaction is a director's conflict of interest transaction, which transaction is challenged in such Claim; and

iii. does not have a material relationship with a director who is disqualified by virtue of not meeting the requirements of subparagraph (i) or subparagraph (ii) of this definition.

h. Reviewing Party. "Reviewing Party" means:

i. if there are two or more Qualified Directors, by the Board Directors by a majority vote of all of the Qualified Directors, a majority of whom shall for such purposes constitute a quorum, or by a majority of the members of a committee of two or more Qualified Directors appointed by such a vote; or

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ii. by Independent Legal Counsel: (1) selected in the manner prescribed by paragraph (h)(i) of this definition; or (2) if there are fewer than two Qualified Directors, selected by the Board of Directors.

i. Voting Securities. "Voting Securities" means any securities of the Company which vote generally in the election of directors.

2. **Basic Indemnification Arrangement**.

a. In the event Indemnitee was, is or becomes a party to or witness or other participant in, or is threatened to be made a party to or witness or other participant in, a Claim by reason of (or arising in part out of) an Indemnifiable Event, the Company shall indemnify Indemnitee to the full extent permitted by the Articles and the Florida Business Corporation Act as soon as practicable but in any event no later than thirty days after written demand is presented to the Company, against any and all Losses (including all interest, assessments and other charges paid or payable in connection with or in respect of such Losses) related to or arising from such a Claim including, without limitation, Claims brought by or in the right of the Company, Claims brought by third parties, and Claims in which the Indemnitee is solely a witness.

b. Indemnitee shall have the right to advancement by the Company, prior to the final disposition of any Claim by final adjudication to which there are no further rights of appeal, of any and all Expenses actually and reasonably paid or incurred by Indemnitee in connection with any Claim arising out of an Indemnifiable Event. Without limiting the generality or effect of the foregoing, within two business days of such request by Indemnitee, the Company shall, in accordance with such request, (a) pay such Expenses on behalf of Indemnitee, (b) advance to Indemnitee funds in an amount sufficient to pay such Expenses, or (c) reimburse Indemnitee for such Expenses. In connection with any request for payment of expenses advanced to Indemnitee by the Company pursuant to this Section 2 ("Expense Advances"), Indemnitee shall not be required to provide any documentation or information to the extent that the provision thereof would undermine or otherwise jeopardize attorney-client privilege.

c. Notwithstanding the foregoing, (i) the obligations of the Company under this Section 2 shall be subject to the condition that the Reviewing Party shall not have determined (in a written opinion to the Board of Directors in any case in which Independent Legal Counsel is involved) that Indemnitee would not be permitted to be indemnified under applicable law, and (ii) the obligation of the Company to make an Expense Advance pursuant to this Section 2 shall be subject to the condition that, if, when and to the extent that the Reviewing Party determines that Indemnitee would not be permitted to be so indemnified under applicable law, the Company shall be entitled to be reimbursed by Indemnitee (who hereby agrees to reimburse the Company) for all such amounts theretofore paid; provided, however, that if Indemnitee has commenced or thereafter commences legal proceedings in a court of competent jurisdiction to secure a determination that Indemnitee should be indemnified under applicable law, any determination made by the Reviewing Party that Indemnitee would not be permitted to be indemnified under applicable law shall not be binding and Indemnitee shall not be required to reimburse the Company for any Expense Advance until a final judicial determination is made with respect thereto (as to which all rights of appeal therefrom have been exhausted or lapsed). Indemnitee's obligation to reimburse the Company for Expense Advances shall be unsecured and no interest shall be charged thereon.

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d. If there has not been a Change in Control (or if there has been a Change in Control which has been approved by a majority of the Company's Board of Directors who were directors immediately prior to such Change in Control), the Reviewing Party shall be, if there are two or more Qualified Directors, the Board Directors by a majority vote of all of the Qualified Directors, a majority of whom shall for such purposes constitute a quorum, or by a majority of the members of a committee of two or more Qualified Directors appointed by such a vote, or by Independent Legal Counsel selected by the Board of Directors or such committee. If there has been such a Change in Control (other than a Change in Control which has been approved by a majority of the Company's Board of Directors who were directors immediately prior to such Change in Control), the Reviewing Party shall be the Independent Legal Counsel referred to in Section 3 hereof and contemplated by the definition of Review Party. If there has been no determination by the Reviewing Party or if the Reviewing Party determines that Indemnitee substantively would not be permitted to be indemnified in whole or in part under applicable law, Indemnitee shall have the right to commence litigation in any court in the State of Florida having subject matter jurisdiction thereof and in which venue is proper seeking an initial determination by the court or challenging any such determination by the Reviewing Party or any aspect thereof, including the legal or factual bases therefor, and the Company hereby consents to service of process and to appear in any such proceeding. Any determination by the Reviewing Party otherwise shall be conclusive and binding on the Company and Indemnitee.

3. **Change in Control**. The Company agrees that if there is a Change in Control of the Company (other than a Change in Control which has been approved by a majority of the Company's Board of Directors who were directors immediately prior to such Change in Control) then with respect to all matters thereafter arising concerning the rights of Indemnitee to indemnity payments and Expense Advances under the Articles, this Indemnification Agreement or any other agreement or Company Bylaws now or hereafter in effect relating to Claims for Indemnifiable Events, the Company shall seek legal advice only from Independent Legal Counsel selected by Indemnitee and approved by the Company in the manner contemplated by this Agreement (which approval shall not be unreasonably withheld). Such counsel, among other things, shall render its written opinion to the Company and Indemnitee as to whether and to what extent the Indemnitee would be permitted to be indemnified under applicable law. The Company agrees to pay the reasonable fees of the Independent Legal Counsel referred to above and to fully indemnify such counsel against any and all expenses (including attorneys' fees), claims, liabilities and damages arising out of or relating to this Indemnification Agreement or its engagement pursuant hereto.

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4. **Indemnification for Additional Expenses**. The Company shall indemnify Indemnitee against any and all Expenses and, if requested by Indemnitee, shall (within two business days of such request) advance such Expenses to Indemnitee which are incurred by Indemnitee in connection with any action brought by Indemnitee for (i) indemnification or advance payment of Expenses by the Company under this Indemnification Agreement or any other agreement, the Articles or Company Bylaw now or hereafter in effect relating to Claims for Indemnifiable Events, and/or (ii) recovery under any directors' and officers' liability insurance policies maintained by the Company regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advance Expense payment or insurance recovery, as the case may be.

5. **Partial Indemnity, Etc**. If Indemnitee is entitled under any provision of this Indemnification Agreement to indemnification by the Company for some or a portion of the Losses related to a Claim but not, however, for the total amount thereof, the Company shall nevertheless indemnify Indemnitee for the portion thereof to which Indemnitee is entitled. Moreover, notwithstanding any other provision of this Indemnification Agreement, to the extent that Indemnitee has been successful on the merits or otherwise in defense of any or all Claims relating in whole or in part to an Indemnifiable Event or in defense of any issue or matter therein, including dismissal without prejudice, Indemnitee shall be indemnified against all Expenses incurred in connection therewith.

6. **Exception to Right of Indemnification**. Notwithstanding any provision in this Indemnification Agreement, the Company shall not be obligated to:

   a. indemnify or advance funds to Indemnitee for Expenses or Losses with respect to proceedings initiated by Indemnitee, including any proceedings against the Company or its directors, officers, employees or other indemnitees and not by way of defense, except where the Company has joined in or the Board of Directors has consented to the initiation of such proceedings.

   b. indemnify Indemnitee if a final decision by a court of competent jurisdiction determines that such indemnification is prohibited by applicable law.

   c. indemnify Indemnitee for the disgorgement of profits arising from purchase or sale by Indemnitee of securities of the Company in violation of Section 16(b) of the Exchange Act, or any similar successor statute.

7. **Notification and Defense of Claims**.

   a. Notification of Claims. Indemnitee shall notify the Company in writing as soon as practicable of any Claim which could relate to an Indemnifiable Event or for which Indemnitee could seek Expense Advances, including a brief description (based upon information then available to Indemnitee) of the nature of, and the facts underlying, such Claim. The failure by Indemnitee to timely notify the Company hereunder shall not relieve the Company from any liability hereunder unless the Company's ability to participate in the defense of such claim was materially and adversely affected by such failure.

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   b. Defense of Claims. The Company shall be entitled to participate in the defense of any Claim relating to an Indemnifiable Event at its own expense and, except as otherwise provided below, to the extent the Company so wishes, it may assume the defense thereof with counsel reasonably satisfactory to Indemnitee (the consent to which shall not be unreasonably withheld by Indemnitee). After notice from the Company to Indemnitee of its election to assume the defense of any such Claim, the Company shall not be liable to Indemnitee under this Agreement or otherwise for any Expenses subsequently directly incurred by Indemnitee in connection with Indemnitee's defense of such Claim other than reasonable costs of investigation or as otherwise provided below. Indemnitee shall have the right to employ its own legal counsel in such Claim, but all Expenses related to such counsel incurred after notice from the Company of its assumption of the defense shall be at Indemnitee's own expense; provided, however, that if (i) Indemnitee's employment of its own legal counsel has been authorized by the Company, (ii) Indemnitee has reasonably determined that there may be a conflict of interest between Indemnitee and the Company in the defense of such Claim, (iii) after a Change in Control, Indemnitee's employment of its own counsel has been approved by the Independent Counsel or (iv) the Company shall not in fact have employed counsel to assume the defense of such Claim, then Indemnitee shall be entitled to retain its own separate counsel (but not more than one law firm plus, if applicable, local counsel in respect of any such Claim) and all Expenses related to such separate counsel shall be borne by the Company.

8. **Presumption in Favor of Indemnitee; Burden of Proof**. In connection with any determination by the Reviewing Party or otherwise as to whether Indemnitee is entitled to be indemnified hereunder, there shall exist a rebuttable presumption that Indemnitee has met the applicable standard(s) of conduct and is, therefore, entitled to indemnification pursuant to this Indemnification Agreement, and the burden of proof shall be on the Company to establish that Indemnitee has not met such applicable standard(s) of conduct and is not so entitled to indemnification.

9. **No Other Presumptions**. For purposes of this Indemnification Agreement, the termination of any claim, action, suit or proceeding, by judgment, order, settlement (whether with or without court approval) or conviction, or upon a plea of nolo contendere, or its equivalent, shall not create a presumption that (i) Indemnitee did not meet any particular standard of conduct; or (ii) Indemnitee did not have any particular belief; or, (iii) that a court has determined that indemnification is not permitted by applicable law. In addition, neither the failure of the Reviewing Party to have made a determination as to whether Indemnitee has met any particular standard of conduct or had any particular belief, nor an actual determination by the Reviewing Party that Indemnitee has not met such standard of conduct or did not have such belief, prior to the commencement of legal proceedings by Indemnitee to secure a judicial determination that Indemnitee should be indemnified under applicable law shall be a defense to Indemnitee's claim or create a presumption that Indemnitee has not met any particular standard of conduct or did not have any particular belief.

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10. **Nonexclusivity, Etc**. The rights of Indemnitee hereunder will be in addition to any other rights Indemnitee may have under the Articles, any Company Bylaw, the Florida Business Corporation Act or any other contract or otherwise (collectively, "Other Indemnity Provisions"); provided, however, that (a) to the extent that Indemnitee otherwise would have any greater right to indemnification under any Other Indemnity Provision, Indemnitee will be deemed to have such greater right hereunder and (b) to the extent that any change is made to any Other Indemnity Provision which permits any greater right to indemnification than that provided under this Agreement as of the date hereof, Indemnitee will be deemed to have such greater right hereunder.

11. **Liability Insurance**. If the Company obtains directors' and officers' liability insurance, then, to the extent the Company maintains an insurance policy or policies providing directors' and officers' liability insurance, Indemnitee shall be covered by such policy or policies, in accordance with its or their terms, to the maximum extent of the coverage available for any Company director or officer.

12. **Period of Limitations**. No legal action shall be brought and no cause of action shall be asserted by or in the right of the Company against Indemnitee or Indemnitee's spouse, heirs, executors or personal or legal representatives after the expiration of two years from the date of accrual of such cause of action, and any claim or cause of action of the Company shall be extinguished and deemed released unless asserted by the timely filing of a legal action within such two year period; provided, however, that if any shorter period of limitations is otherwise applicable to any such cause of action, such shorter period shall govern.

13. **Amendments, Etc**. No supplement, modification or amendment of this Indemnification Agreement shall be binding unless executed in writing by both of the parties hereto. No waiver of any of the provisions of this Indemnification Agreement shall be deemed or shall constitute a waiver of any other provisions hereof (whether or not similar) nor shall such waiver constitute a continuing waiver.

14. **Subrogation**. In the event of payment under this Indemnification Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee, who shall execute all papers required and shall do everything that may be necessary to secure such rights, including the execution of such documents necessary to enable the Company effectively to bring suit to enforce such rights. To the extent Indemnitee has been indemnified by the Company hereunder and later receives payments from any insurance carrier covering the same Losses so indemnified by the Company hereunder, Indemnitee shall immediately reimburse the Company hereunder for all such amounts received from the insurer. Notwithstanding anything contained herein to the contrary, Indemnitee shall not be entitled to recover amounts under this Indemnification Agreement which, when added to the amount of indemnification payments made to, or on behalf of, Indemnitee, under the Articles or Company Bylaws, in the aggregate exceed the Losses actually and reasonably incurred by Indemnitee ("Excess Amounts"). To the extent the Company has paid Excess Amounts to Indemnitee, Indemnitee shall be obligated to immediately reimburse the Company for such Excess Amounts.

15. **No Duplication of Payments**. The Company shall not be liable under this Indemnification Agreement to make any payment in respect of any Losses to the extent Indemnitee has otherwise actually received payment (under any insurance policy, the Articles or Company Bylaws or otherwise) of the amounts otherwise indemnifiable hereunder.

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16. **Right of Individual Attorney**. Except as specifically provided in this Agreement, the Company shall not restrict the right of Indemnitee to be represented by and indemnified against the fees and expenses of the attorney of Indemnitee's choice hereunder.

17. **Allowance for Compliance with SEC Requirements**. Indemnitee acknowledges that the Securities and Exchange Commission ("SEC") has expressed the opinion that indemnification of directors and officers from liabilities under the Securities Act of 1933, as amended (the "Securities Act") is against public policy as expressed in the Securities Act and is, therefore, unenforceable. Indemnitee hereby agrees that it will not be a breach of this Indemnification Agreement for the Company to undertake with the SEC in connection with the registration for sale of any stock or other securities of the Company from time to time that, in the event a claim for indemnification against liabilities under the Securities Act (other than the payment by the Company of expenses incurred or paid by a director or officer of the Company in the successful defense of any action, suit or proceeding) is asserted in connection with such securities being registered, the Company will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of competent jurisdiction the question of whether or not such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue. Indemnitee further agrees that such submission to a court of competent jurisdiction shall not be a breach of this Indemnification Agreement.

18. **Binding Effect**. This Indemnification Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors; assigns, including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business and/or assets of the Company; spouses; heirs; executors and personal and legal representatives. The Company shall require and cause any successor (whether direct or indirect by purchase, merger, consolidation or otherwise) to all, substantially all or a substantial part of the business and/or assets of the Company, by written agreement in form and substances satisfactory to Indemnitee, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform if no such succession had taken place

19. **Severability**. The provisions of this Indemnification Agreement shall be severable in the event that any of the provisions hereof (including any provision within a single section, paragraph or sentence) is held by a court of competent jurisdiction to be invalid, void or otherwise unenforceable in any respect, and the validity and enforceability of any such provision in every other respect and of the remaining provisions hereof shall not be in any way impaired and shall remain enforceable to the full extent permitted by law.

20. **Governing Law**. This Indemnification Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Florida applicable to contracts made and to be performed in such state without giving effect to the principles of conflicts of laws.

21. **Counterparts**. This Indemnification Agreement may be executed in two or more fully or partially executed counterparts each of which shall be deemed an original binding and the signer thereof against the other signing parties, but all counterparts together shall constitute one and the same instrument. Executed signature pages may be removed from counterpart agreements and attached to one or more fully executed copies of this Agreement.

22. **Notice**. Indemnitee shall, as a condition precedent to his right to be indemnified under this Indemnification Agreement, give to the Company notice in writing as soon as practicable of any claim made against him for which indemnity will or could be sought under this Indemnification Agreement. Notice to the Company shall be directed to the Company at its headquarters located at 5300 West Cypress Street, Suite 100, Tampa, Florida 33607, Attention: General Counsel (or such other address as the Company shall designate in writing to Indemnitee). Notice shall be deemed received three days after the date of postmark if sent by prepaid mail, properly addressed. In addition, Indemnitee shall give the Company such information and cooperation as it may reasonably require within Indemnitee's power.

23. **Duration**. All agreements and obligations of the Company contained herein shall continue during the period that Indemnitee is a director or officer of the Company (or is serving at the request of the Company as a director, officer, employee, member, trustee or agent of another entity) and shall continue thereafter (i) so long as Indemnitee may be subject to any possible Claim relating to an Indemnifiable Event (including any rights of appeal thereto) and (ii) throughout the pendency of any proceeding (including any rights of appeal thereto) commenced by Indemnitee to enforce or interpret his or her rights under this Agreement, even if, in either case, he or she may have ceased to serve in such capacity at the time of any such Claim or proceeding.

[Remainder of this page intentionally left blank; signatures to follow]

IN WITNESS WHEREOF, the parties hereto have executed this Indemnification Agreement as of the date first above written.

Attest:

MIRA PHARMACEUTICALS, INC.

By: _____

"INDEMNITEE"

Exhibit 10.4

CONFIRMATORY PATENT ASSIGNMENT AND ROYALTY AGREEMENT

THIS AGREEMENT ("Agreement") is entered into as of November 1, 2021 (the "Effective Date"), by and between SRQ PATENT HOLDINGS II, LLC, a Florida limited liability company ("Assignor"), located at 324 S. Hyde Park Avenue, Suite 350, Tampa FL 33606, MIRA1a THERAPEUTICS, INC., a Florida corporation ("Assignee") located at 324 S. Hyde Park Avenue, Suite 350, Tampa FL 33606, and Jonnie R. Williams, Sr., an individual ("Inventor"). Assignor, Assignee, and Inventor are herein referred to collectively as the "Parties."

WHEREAS, Inventor assigned the entire right, title, and interest in U.S. Patent 10,787,675 B2 (the "Assigned Letters Patent"), inventions and improvements therein (referred to herein collectively as the "Innovation") to Assignee via that certain Assignment, dated September 2, 2021, recorded with the United States Patent and Trademark Office on September 2, 2021 at Reel 057365, Frame 0195 ("Assignment"); and

WHEREAS, as part of the consideration for the Assignment, Assignee desires to grant Assignor royalties as set forth herein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE I—DEFINITIONS

1.1 Capitalized terms used but not defined herein shall have the meanings for such terms that are set forth in the Assignment.

1.2 "Assigned Product" shall mean: (a) any product whose manufacture, use, sale, offer for sale, or importation infringes a Valid Claim of an Assigned Letters Patent either directly or by contributory infringement or inducement of infringement (collectively "covered"); (b) any product which is applied using any method that is covered by a Valid Claim of an Assigned Letters Patent; or (c) any method covered by a Valid Claim of an Assigned Letters Patent. For purposes of clarity, an Assigned Product shall continue to be covered by this definition after expiration of such Assigned Letters Patent for as long as such Assigned Product remains covered by terms of any strategic partnership/joint venture and/or License agreement with any third party.

1.3 "Licensee" shall mean any entity, whether a partnership, firm, company, corporation or otherwise to which Assignee grants a license of the Innovation or a part thereof.

1.4 "Net Sales Price" shall mean the invoice price for Assigned Products sold in arm's length sales or commercial transactions to a third party by Assignee, its affiliates, or any third party which acquired ownership of any Assigned Product from Assignee, less deductions for taxes, duties, and shipping charges separately stated on the invoice.

1.5 "Revenue" shall mean any and all revenue or other consideration received for an Assigned Product, including but not limited to, revenue or royalties from sales of Assigned Products, upfront revenue, milestone revenue, royalty income (e.g., running royalty or minimum royalty), license fees, and the market value at the time of transfer of all non-monetary consideration such as in-kind contribution valued in money in the country of disposition.

1.6 "Valid Claim" shall mean a claim in an unexpired Assigned Letters Patent which has not been held invalid or unenforceable by a court or tribunal of competent jurisdiction from which no further appeal can be taken or has been taken within the required time period.

ARTICLE 2—-ROYALTY PAYMENTS AND REPORTS

2.1 Royalties. Assignee agrees to pay to Assignor eight percent (8.0%) of Net Sales Price and royalty Revenue and eight percent (8%) of milestone payment Revenue (collectively, "Royalties") received by Assignee for the Innovation, distributed per Assignee's direction as follows:

Recipient	Royalty	Milestone Payments
Starwood Trust, or its assigns 4423 Bay Shore Road Sarasota, FL 34234	Eight percent (8%) of Revenue	Eight percent (8.0%) of milestone payment Revenue

2.2 Licensees. To the extent Assignee grants a license of the Innovation, or any part thereof, to any third party, and receives Revenue therefrom, then Assignee agrees to pay to Assignor eight percent (8.0%) of Revenue received by Assignee for each such license granted covering the Innovation, distributed as indicated above in Section 2.1.

2.3 Term of Royalty Obligations. The Royalties specified in Section 2.1 shall commence on the Effective Date, and shall continue, in each country on a product-by-product and country-by-country basis until the later of i) the date of expiration of the last to expire patent included within the Innovation, or ii) the date of expiration of the last strategic partnership/licensing agreement including the Innovation.

2.4 Payments of Royalties. Royalties shall be paid no later than sixty (60) days following the end of the calendar quarter during which Assigned Products are sold and invoiced, or Revenues are received.

2.5 Place of Payment. Assignee agrees to pay the respective amounts contemplated by Article 2 to Assignor at the address listed hereinabove, or at such other place as Assignor may specify from time to time, in United States dollars and through a United States bank as designated by Assignor.

2.6 No royalty shall be paid twice on the Assigned Product.

2.7 Interest. All payments due hereunder that are not paid when due and payable as specified in this Agreement shall bear interest at an accrual rate equal to the prime rate for U.S. dollar deposits in effect from time to time, as published daily in the Wall Street Journal plus 5%, compounded monthly from the date due until paid, or at such lower rate of interest as shall then be the maximum rate permitted by applicable law.

2.8 Right to Documentation. Upon request, Assignor shall have the right to request reasonable documentation of Assignee's calculations to determine Royalties and to request discussion of such calculations with appropriate representatives of Assignee.

2.9 Records Retention and Audits. Assignee agrees to keep true and accurate records, files, and books of account containing all the data reasonably required for the full computation and verification of the Royalties to be paid in Article 2 hereof, and Assignee further agrees to permit its books and records to be examined from time to time to the extent necessary to verify such Royalties, such examination to be made at the expense of Assignor, by any auditor appointed by Assignor who shall be acceptable to Assignee, or by a certified public accountant appointed by Assignor; provided that only those Royalties paid by Assignee within the two (2) year period immediately preceding the start of the audit, and their supporting records, files, and books of account will be subject to audit.

ARTICLE 3—ASSIGNMENT OF RIGHTS

3.1 Royalty recipients identified in section 2.1 above acknowledge and agree that Assignee may assign, license or otherwise convey any part or all of the Innovation to a third party without the consent of any or all of the Royalty recipients. Such assignment shall be through an arms-length transaction to a non-affiliate, made at fair value, and shall result in treatment of Royalty recipients which is proportional to the rights granted in section 2.1 above. Assignee shall give written notice to Assignor with respect to any assignment of the Innovation granted by Assignee.

3.2 Assignee shall give written notice to Assignor with respect to any license of the Innovation granted by Assignee. Such license shall be through an arms-length transaction to a non-affiliate, made at fair value, and shall result in treatment of Royalty recipients which is proportional to the rights granted in section 2.1 above.

ARTICLE 4—MISCELLANEOUS

4.1 Relationship of Parties. Nothing in this Agreement is or shall be deemed to constitute a partnership, agency, employee or joint venture relationship between the Parties. No Party shall incur any debts or make any commitments for the other, except to the extent, if at all, specifically provided herein.

4.2 This Agreement shall inure to the benefit of the Parties, their successors and lawful assigns, and be binding upon the Parties, their successors, and lawful assigns.

4.3 Amendment. This Agreement may not be amended except in writing by all the Parties, and upon the written consent of Assignor. This Agreement may be signed in counterparts, each of which when taken together, will constitute one and the same instrument.

4.4 Waiver. No provision of this Agreement shall be waived by any act, omission or knowledge of a Party or its agents or employees except by an instrument in writing expressly waiving such provision and signed by the waiving Party.

4.5 Governing Law. This Agreement shall be governed by the laws of Florida and the laws of the United States of America as applicable, and any dispute between the Parties with respect to this Agreement shall be subject to the jurisdiction of the Florida courts.

4.6 Severability. Whenever possible, each provision of this Agreement will be interpreted in a manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be prohibited by or invalid under applicable law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Agreement.

4.7 Force Majeure. Neither Party shall lose any rights hereunder or be liable to the other Party or beneficiary for damages or losses (except for payment obligations) on account of failure of performance by the defaulting party to the extent such the failure is occasioned by war, strike, fire, Act of God, earthquake, flood, lockout, embargo, governmental acts or orders or restrictions (except if imposed due to or resulting from the party's violation of law or regulations), failure of suppliers, or any other reason where failure to perform is beyond the reasonable control and not caused by the negligence, intentional conduct or misconduct of the nonperforming party and the nonperforming party has exerted all reasonable efforts to avoid or remedy such force majeure; provided, however, that in no event shall a force majeure excuse performance for a period of more than six (6) months.

4.8 Notice. All notices required or permitted by this Agreement shall be in writing and shall be given by first class postage pre-paid mail, via electronic mail with receipt verification, or by facsimile transmission, effective in each case upon the date of mailing or facsimile transmission thereof to the parties addressed as follows:

If to Assignor or Inventor:
SRQ Patent Holdings II, LLC
c/o Starwood Trust
4423 Bay Shore Road
Sarasota, FL 34234

If to Assignee:
MIRA1a Therapeutics, Inc.
324 South Hyde Park Avenue, Suite 350
Tampa, Florida 33606-4110

or to such other address as the party to receive such notice shall have designated by written notice to the other party hereto.

[Signatures Begin on Next Page]

IN WITNESS WHEREOF, each of the Parties has caused this Agreement to be executed by its duly authorized officer as of the day and year first above written.

SRQ PATENT HOLDINGS II, LLC (Assignor)

By: */s/ Caroline Williams*
Name: Caroline Williams, as Trustee of Starwood Trust
Title: Sole Member

MIRA1a THERAPEUTICS, INC. (Assignee)

By: */s/ James A. McNulty*
Name: James A. McNulty
Title: CFO

JONNIE R. WILLIAMS, SR. (Inventor)

/s/ Jonnie R. Williams, Sr.

Exhibit 10.5

AMENDED & RESTATED
LIMITED LICENSE AGREEMENT

This Amended & Restated Limited License Agreement ("**Agreement**") is made this 27th day of June, 2022 and is retroactive to 28th day of April, 2022 (the "**Effective Date**") when the Limited License Agreement was first entered by and between **MyMD Pharmaceuticals, Inc.**, a New Jersey corporation having a place of business at 855 N. Wolfe St., Suite 601, Baltimore, Maryland 21205 ("**MYMD**") and **MIRA1a Therapeutics, Inc.**, a Florida corporation having a place of business at 900 West Platt St., Suite 200, Tampa, Florida 33606-2173 ("**MIRA1a**").

Recitals

WHEREAS, **MYMD** is developing Supera-CBD™, a synthetic cannabinoid analog for addressing epilepsy, seizures, anxiety, and chronic pain; and **MIRA1a** is developing MIRA1a™, a synthetic cannabinoid analog that targets the CB_1 and CB_2 receptors for addressing chronic pain and anxiety. Supera-CBD™ and MIRA1a™ share certain structural similarities and are described in a common patent specification, with U.S. Patent 11,085,047 B2 covering Supera-CBD™ and a divisional thereof, U.S. Patent 10,787,675 B2, covering MIRA1a™. **MIRA1a** presently is exploring synthetic routes for the manufacture of MIRA1a™ that employ Supera-CBD™ as an intermediate.

WHEREAS, the Parties recognize that there would be mutual efficiencies to share certain knowhow that pertains to Supera-CBD™ and MIRA1a™, including and especially with respect to their respective synthetic manufacture and formulation.

NOW, THEREFORE, in consideration of the premises and mutual covenants herein contained and exchanged, the receipt and sufficiency of which are hereby acknowledged by each Party, the Parties agree as follows:

Article 1 – Definitions

As used herein, the following terms will mean:

1.1 "Confidential Information" means any confidential or proprietary information of a Party, including any information related to any compound, research project, work in process, future development, scientific, engineering, manufacturing, marketing, business plan, financial or personnel matter relating to such Party, its present or future research, products, services, sales, suppliers, customers, employees, investors, or business, whether in oral, written, graphic or electronic form. Notwithstanding the foregoing, Confidential Information does not include any information that the receiving Party can prove by competent written evidence: (a) is now, or hereafter becomes generally known or available through no unlawful act or failure to act on the part of the receiving Party; (b) is known by the receiving Party at the time of receiving such information as evidenced by the receiving Party's records; (c) is hereafter furnished to the receiving Party by a third party as a matter of right and without restriction on disclosure; (d) is independently developed by the receiving Party as evidenced by the receiving Party's records, without knowledge, aid, application or use of the Confidential Information of the disclosing Party; or (e) is the subject of a written permission to disclose provided by the disclosing Party.

1.2 "Party" or "Parties" means **MYMD** and **MIRA1a** individually and collectively, and their respective directors, officers, employees, agents, subcontractors, representatives, designees, successors and assigns.

1.3 "MIRA1a™ Foreign IP Rights" means the patents and applications listed in Schedule A appended hereto which cover MIRA1a™ and its formulations and therapeutic uses. The Parties acknowledge that, as of the Effective Date of this Agreement, **MYMD** owns all title and interest in and to the MIRA1a™ Foreign IP Rights.

1.4 "Licensed Product" means materials and formulations covered by the MIRA1a™ Foreign IP Rights.

1.5 "Supera-CBD™ IP Rights" means the patents and applications listed in Schedule B.

1.6 "Field of Use" means research and development activities, solely for pre-clinical and clinical studies, whether carried out in the United States or abroad.

Article 2 – Sharing of Technical Information and Intellectual Property

2.1 The Parties agree to promptly share technical information and know-how, whether developed internally or by outside contractors, that pertains to the synthetic manufacture and/or formulation of Supera-CBD™ and MIRA1a™, as the case may be, during the Term of Agreement.

2.2 All improvements, inventions, developments, and derivations, whether made solely by or on behalf of a Party or jointly by or on behalf of the Parties (collectively "Improvements") related solely to the synthetic manufacture or formulation of Supera-CBD™ will be owned by **MYMD**. All Improvements related solely to the synthetic manufacture or formulation of MIRA1a™ will be owned by **MIRA1a** ("**MIRA1a Improvements**"). Any Improvements embracing the synthetic manufacture or formulation of both Supera-CBD™ and MIRA1a™ will be jointly owned by the Parties, and each Party expressly covenants that it will not commercialize such jointly owned Improvements until a definitive agreement is negotiated and entered regarding the management and commercialization of all aspects of such co-owned Improvements and the intellectual property related thereto.

2.3 Each Party will take all actions reasonably necessary to effectuate the ownership of rights as set forth in Section 2.2 as reasonably requested by the other Party, including without limitation executing all documentation in support of the protection, maintenance, and enforcement of such Improvements and any intellectual related thereto. Each Party will require its employees and consultants to assign such Party exclusive ownership of all inventions and works of authorship related to such Improvements.

Article 3 – Publicity

3.1 Neither Party will use the name of the other Party in any publicity, advertising, news release or other media without the other Party's prior written approval.

Article 4 – Confidentiality

4.1 During the Term of Agreement and for a period of five (5) years thereafter, each Party will maintain in strict confidence all Confidential Information disclosed by the other Party. Neither Party will use, disclose nor grant use of such Confidential Information except as expressly authorized by this Agreement. To the extent that disclosure is authorized by this Agreement, the disclosing Party will obtain prior agreement from its employees or agents to whom disclosure is to be made to hold in confidence and not make use of such information for any purpose other than those permitted by this Agreement. Each Party will use at least the same standard of care as such Party uses to protect such Party's own Confidential Information to ensure that such employees or agents do not disclose or make any unauthorized use of such Confidential Information. Each Party will promptly notify the other Party upon discovery of any unauthorized use or disclosure of the Confidential Information.

4.2 Authorized Disclosure. Each party will have the right to disclose its own Confidential Information to the extent such disclosure is reasonably necessary to protect intellectual property, prosecuting or defending litigation, or complying with applicable laws, statutes, rules, governmental orders and regulations; provided however, that if the receiving Party is required by applicable law to make any such disclosure of the other Party's Confidential Information, such receiving Party will to the extent practicable give reasonable advance written notice to the other Party and will use such Party's best efforts to both limit the scope of required disclosure of the other Party and secure confidential treatment of such information required to be disclosed.

Article 5 – Grant of Limited License

5.1 In consideration of the premises and covenants herein contained and subject to the limitations hereof,**MYMD** hereby grants to **MIRA1a** a non-exclusive, royalty-free license under the MIRA1a™ Foreign IP Rights to make, have made, import, export, and use Licensed Products solely in the Field of Use during the Term of Agreement.

5.2 Subject to the limitations hereof, **MYMD** further hereby grants to **MIRA1a** a worldwide, non-exclusive, royalty-free license under the Supera-CBD™ IP Rights (i) solely to the extent that Supera-CBD™ may be used as a synthetic intermediate in the manufacture of MIRA1a™ and (ii) solely in the Field of Use during the Term of Agreement.

5.3 In consideration of the premises and covenants herein contained and subject to the limitations hereof,**MIRA1A** hereby grants to **MYMD** a non-exclusive, royalty-free license under the MIRA1a™ Improvements to make, have made, offer for sale, sell, import, export, and use Licensed Products solely in the Field of Use during the Term of Agreement.

Article 6 – Term, Dispute Resolution and Termination

6.1 This Agreement will be in effect from the Effective Date and continue for one year ("**Term of Agreement**") unless terminated earlier pursuant to the provisions of this Article. The Term of Agreement may be extended by mutual agreement of the Parties for an additional period that is reasonably necessary to complete the manufacture of quantities of MIRA1a™ needed for preclinical or clinical studies.

6.2 Either Party may terminate this Agreement without cause upon forty-five (45) calendar days prior written notice to the other Party.

6.3 If a dispute arises between the Parties relating to the interpretation or performance of this Agreement or the grounds for termination thereof, and the Parties cannot resolve the dispute within ten (10) calendar days of a written request by either Party to the other Party, the Parties agree to hold a meeting, attended by individuals with decision making authority regarding the dispute, to attempt in good faith to negotiate a resolution of the dispute prior to pursuing termination or other available remedies, legal or otherwise.

6.4 A Party may terminate this Agreement upon or after a material breach of any provision of this Agreement by the other Party if the breaching Party has not cured such material breach within thirty (30) calendar days after written notice thereof by the non-breaching Party.

Article 7 – Representations, Warranties and Covenants

7.1 Corporate Power. Each Party represents and warrants to the other Party that it is duly organized, validly existing and in good standing and has full corporate or other power and authority to enter into this Agreement and to carry out the provisions hereof.

7.2 Due Authorizations. Each Party represents and warrants to the other Party that such Party is duly authorized to execute and deliver this Agreement and to perform such Party's obligations hereunder.

7.3 Binding Agreement. Each Party represents and warrants to the other Party that this Agreement is a legal and valid obligation binding upon such Party and is enforceable in accordance with its terms. The execution, delivery and performance of this Agreement by such Party does not conflict with any agreement, instrument or understanding, oral or written, to which such Party is a party or by which such Party may be bound, nor violate any law or regulation of any court, governmental body or administrative or other agency having authority over such Party.

7.4 [RESERVED]

7.5 DISCLAIMER OF WARRANTIES. THE PARTIES MAKE NO REPRESENTATION OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF TITLE, OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE PARTIES MAKE NO REPRESENTATIONS OR WARRANTIES THAT ANY PRODUCT OR SERVICES MADE, USED, SOLD OR OTHERWISE DISPOSED OF IS OR WILL BE FREE FROM INFRINGEMENT OF PATENTS, COPYRIGHTS, TRADEMARKS, OR OTHER PROPRIETARY RIGHTS OF THIRD PARTIES.

7.6 Indemnification. **MIRA1a Indemnification of MYMD**. **MIRA1a**, at **MIRA1a's** sole cost and expense, will defend, indemnify, and hold **MYMD** and its officers, directors, employees, agents, and all successors thereof (each a "**MYMD Indemnitee**") harmless from and against any and all claims, demands, suits, damages, judgments, liabilities, losses and expenses, including without limitation, personal or bodily injury to or death of any person, defamation, infringement of copyright, trademark, patent or other intellectual property, and attorneys' fees and expenses of litigation, to which **MYMD** Indemnitee may become subject to via any claim, suit, action, demand, or judgment (i) arising out of the design, production, manufacture, sale, use in commerce or in human clinical trials or promotion by MIRA1A or permitted agent thereof in connection with the development or use of any Licensed Product or the manufacture thereof; (ii) a breach of MIRA1A's representations and warranties hereunder; or (iii) arising out of any other activities by MIRA1A or any permitted agent thereof related to this Agreement including without limitation arising out of or relating to the willful misconduct and/or gross negligence of **MIRA1a** or any permitted agent. This indemnification will survive expiration or termination of this Agreement.

7.7 Assignment. Except as expressly provided hereunder, neither this Agreement nor any rights or obligations hereunder may be assigned or otherwise transferred without the prior written consent of the other Party; provided however, that each Party will have the right to assign this Agreement and its rights and obligations hereunder without the other Party's consent in connection with the transfer or sale of all or substantially all of the business of the Party to which this Agreement relates to a third party, whether by merger, sale of stock, sale of assets or otherwise. Notwithstanding the foregoing, any such assignment will not relieve the Party of the Party's responsibilities for performance of its obligations under this Agreement. The rights and obligations of the Parties under this Agreement are binding upon and inure to the benefit of the successors and permitted assigns of the Parties. Any assignment not in accordance with this Agreement will be null and void ab initio.

7.8 Beneficiaries. This Agreement is for the sole and exclusive benefit of the Parties and neither Party intends to create a benefit in favor of any third party.

7.9 Force Majeure. Neither Party will be liable or responsible to the other Party nor be deemed to have materially breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party, including, without

limitation, fire, floods, earthquakes, natural disasters, embargoes, war, acts of war (whether war be declared or not), acts of terrorism, insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, other acts of God or acts, omissions or delays in acting by any governmental authority or the other Party.

7.10 Governing Law. This Agreement will be governed by, and construed and enforced in accordance with, the laws of the State of Florida, which will also be the venue for any litigation arising out of or relating to this Agreement.

7.11 Waiver. The waiver from time to time by either Party of any right or failure to exercise any remedy will not operate or be construed as a continuing waiver of the same right or remedy or of any other of such Party's rights or remedies provided under this Agreement.

7.12 Severability. In case any provision of this Agreement is determined by a court of competent jurisdiction to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions will not in any way be affected or impaired thereby.

7.13 Independent Contractors. The Parties are each an independent contractor and the relationship between the Parties does not constitute a partnership, joint venture or agency of any kind. Neither Party has the authority to make any statements, representations or commitments of any kind, or to take any action that will be binding on the other Party, without the prior written consent of the other Party.

7.14 Notices. All notices and other communications provided for hereunder must be in writing and must be mailed by first class, registered or certified mail, postage paid, or delivered personally, by overnight delivery service, by facsimile, or by electronic transmission with confirmation of receipt, addressed as follows:

If to **MYMD**:

MyMD Pharmaceuticals, Inc.
855 N. Wolfe St., Suite 601
Baltimore, MD 21205
Attn: Chris Chapman, M.D., President
Email: ccchapman@mymd.com

If to **MIRA1a**:

MIRA1a Therapeutics, Inc.
900 West Platt St., Suite 200
Tampa, FL 33606-2173
Attn: James A. McNulty, CFO
Email: jamcnulty@mira1a.com

Either Party may, by like notice, specify or change an address to which notices and communications must thereafter be sent.

7.15 Entire Agreement; Amendment. This Agreement sets forth all of the agreements and understandings between the Parties, and supersedes and terminates all contemporaneous and prior agreements and understandings between the Parties including the original Limited License Agreement entered on April 28 th, 2022. There are no agreements or understandings, either oral or written, between the Parties other than as set forth herein. Except as expressly set forth in this Agreement, no subsequent amendment, modification or addition to this Agreement will be binding upon the Parties unless reduced to writing and signed by the respective authorized officers of each Party.

7.16 Headings. The captions contained in this Agreement are not a part of this Agreement, but are merely guides or labels to assist in locating and reading the several Articles hereof.

7.17 Counterparts. This Agreement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the dates set forth below.

MYMD PHARMACEUTICALS, INC.

By: */s/ Chris Chapman, M.D.*
Chris Chapman, M.D.
President

MIRA1A THERAPEUTICS, INC.

By: */s/ James A. McNulty*
James A. McNulty
Chief Financial Officer

Schedule A – MIRA1a™ Foreign IP Rights

Australian Patent No. 202102296

Canadian Patent Application No. 3,120,993

Chinese Patent Application No. 2021104592836

European Patent Application No. 21171866.3

Israeli Patent Application No. 282342

Japanese Patent Application No. 2021-070269

South Korean Patent No. 10-2374793

Schedule B – Supera-CBD™ IP Rights

US Patent No. 11,085,047 B2

Australian Patent No. 2019225717

Canadian Patent No. 3091776

Chinese Patent Application No. 201980014261X

European Patent Application No. 19756525.2

Israeli Patent No. 276518

Japanese Patent Application No. 2020-553539

South Korean Patent No. 10-2332631

FIRST AMENDMENT TO THE
AMENDED & RESTATED LIMITED LICENSE AGREEMENT

This First Amendment to the Amended & Restated Limited License Agreement ("**First Amendment**") is made this 20th day of April, 2023 and is entered into retroactively as of the 28th day of April, 2022 (the "**Effective Date**") when the Limited License Agreement was first entered by and between **MyMD Pharmaceuticals, Inc.**, a New Jersey corporation having a place of business at 855 N. Wolfe St., Suite 601, Baltimore, Maryland 21205 ("**MYMD**") and **MIRA Pharmaceuticals, Inc.** (f/k/a **MIRA1a Therapeutics, Inc.**), a Florida corporation having a place of business at 900 West Platt St., Suite 200, Tampa, Florida 33606-2173 ("**MIRA**"). MYMD and MIRA may be referred to herein as a "**Party**" and collectively as the "**Parties**."

RECITALS

WHEREAS, the Amended & Restated Limited License Agreement ("**Agreement**") was entered into by and between both Parties on the 27th day of June, 2022 and is retroactive to the Effective Date; and

WHEREAS, the Parties wish to extend the term of the Agreement and the term and nature of the licenses granted under Sections 5.2 and 5.3,

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows.

1.1 Definitions. As used in this First Amendment, all terms are as defined in the Agreement unless the context herein clearly and unambiguously dictates otherwise.

(a) "MIRA1a™ Foreign IP Rights" means the patents and applications listed in Schedule A appended hereto.

(b) "Supera-CBD™ IP Rights" means the patents and applications listed in Schedule B appended hereto.

1.2 Non-Waiver. Unless otherwise specifically waived, mere execution of this First Amendment shall not be construed to mean a waiver of any rights of either party or of any breach or default under the Agreement.

1.3 Modification Requires Written Amendment. Provisions of the Agreement not expressly modified/amended by this First Amendment shall continue to apply without any change thereto.

1.4 Grant of Limited License. Section 5.2 of the Agreement is replaced by the following:

Subject to the limitations hereof, **MYMD** further hereby grants to **MIRA** a perpetual, worldwide, non-exclusive, royalty-free license under the Supera-CBD™ IP Rights solely to the extent that Supera-CBD™ may be used as a synthetic intermediate in the manufacture of MIRA1a™ during the term of this Agreement, *provided that* MYMD expressly reserves all rights to commercialize MIRA1a in the Excluded Territory and MIRA will not itself, and will not assist any third party to, commercialize MIRA1a in any part of the Excluded Territory. The Parties contemplate potentially licensing MIRA rights under a mutually-agreed written license agreement before MIRA commercializes any composition including MIRA1a or any Licensed Product in the Excluded Territory. Additionally, the Parties agree and understand that the license granted under this Section 5.2 does not convey any rights under the MIRA1a™ Foreign IP Rights. The term "***Excluded Territory***" as used herein means the following jurisdictions: Australia, Belgium, the UK, Canada, China, Czech Republic, the Netherlands, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Malta, Poland, Portugal, Romania, Spain, South Korea, and Sweden.

Section 5.3 of the Agreement is replaced by the following:

In consideration of the premises and covenants herein contained and subject to the limitations hereof, **MIRA** hereby grants to **MYMD** a perpetual, non-exclusive, royalty-free license under the MIRA1a™ Improvements to make, have made, offer for sale, sell, import, export, and use Licensed Products, subject to the provisions of Section 2.2.

1.5 Term of Agreement. Section 6.1 of the Agreement is replaced by the following:

The license to the MIRA1a™ Foreign IP Rights under Section 5.1 of the Agreement will expire on April 28, 2023; otherwise, subject to the limitations and conditions of this Agreement the licenses to the Supera-CBD™ IP Rights under Section 5.2 and the MIRA1a™ Improvements under Section 5.3 will be in effect from the Effective Date and continue perpetually.

1.6 Notices. Section 7.14 is amended by replacing the MIRA1a name and notice address to the following:

"If to **MIRA**:

MIRA Pharmaceuticals, Inc.
900 West Platt St., Suite 200
Tampa, FL 33606-2173
Attn: Christo Nicholoudis, General Counsel
Email: christos@mirapharma.com "

1.7 Entire Agreement. This First Amendment, along with the Agreement and updated attached Schedule, constitutes the entire agreement between the Parties with respect to the subject matter herein, and supersedes all prior agreements, proposals, negotiations, representations or communications relating to such subject matter. The Parties acknowledge that they have not been induced to enter into this Agreement by any representations or promises not specifically stated herein.

1.8 Execution; Counterparts. This First Amendment may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Signatures in a fixed electronic format such as PDF shall have the same effect as originals.

IN WITNESS WHEREOF, THE PARTIES HAVE EXECUTED THIS FIRST AMENDMENT AS OF THE EFFECTIVE DATE.

MYMD PHARMACEUTICALS, INC. **MIRA PHARMACEUTICALS, INC.**

By: */s/ Chris Chapman, M.D.*
Chris Chapman, M.D.
President

By: */s/ Erez Aminov*
Erez Aminov
Chief Executive Officer

Schedule A – MIRA1a™ Foreign IP Rights

Australian Patent No. 202102296

Belgian Patent No. 3884936

British Patent No. 3884936

Canadian Patent No. 3,120,993

Chinese Patent Application No. 2021104592836

Czech Patent No. 3884936

Dutch Patent No. 3884936

French Patent No. 3884936

German Patent No. 3884936

Greek Patent No. 3884936

Hungarian Patent No. 3884936

Irish Patent No. 3884936

Israeli Patent No. 282342

Italian Patent No. 3884936

Japanese Patent Application No. 2021-070269

Maltese Patent No. 3884936

Polish Patent No. 3884936

Portuguese Patent No. 3884936

Romanian Patent No. 3884936

Spanish Patent No. 3884936

South Korean Patent No. 10-2374793

Swedish Patent No. 3884936

Schedule B – Supera-CBD™ IP Rights

US Patent No. 11,085,047 B2

Australian Patent No. 2019225717

Belgian Patent No. 3755318

British Patent No. 3755318

Canadian Patent No. 3091776

Chinese Patent Application No. 201980014261X

Czech Patent No. 3755318

Dutch Patent No. 3755318

French Patent No. 3755318

German Patent No. 3755318

Greek Patent No. 3755318

Hungarian Patent No. 3755318

Irish Patent No. 3755318

Israeli Patent No. 276518

Italian Patent No. 3755318

Japanese Patent Application No. 2020-553539

Maltese Patent No. 3755318

Polish Patent No. 3755318

Portuguese Patent No. 3755318

Romanian Patent No. 3755318

Spanish Patent No. 3755318

South Korean Patent No. 10-2332631

Swedish Patent No. 3755318

Exhibit 10.7

Employment Agreement

This Employment Agreement (this "Agreement") is made and entered into as of April 28, 2023 (the "Effective Date"), by and between **MIRA Pharmaceuticals, Inc.** (the "Company") and **Erez Aminov** ("Employee").

In consideration of the mutual promises and covenants set forth herein, and other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Company and Employee hereby agree as follows:

1. **Position of Employment.**

   a. The Company will employ the Employee in the position of Chief Executive Officer, and, in that position, Employee will report to the Company's Board of Directors. Employee's duties shall include (i) the duties customarily associated with the position of a company's principal executive officer, and (ii) such other reasonable related duties as the Company or its Board of Directors may assign to Employee from time to time (including service to subsidiaries of the Company for no additional consideration). The Company retains the right to change Employee's title, duties, and reporting relationships as may be determined to be in the best interests of the Company; provided, however, that any such change shall be consistent with Employee's training, experience, and qualifications.

   b. The terms and conditions of the Employee's employment shall, to the extent not addressed or described in this Agreement, be governed by the Company's Board of Directors. In addition, the Company in its discretion may adopt a formal Policies and Procedures Manual for all employees to adhere to. In the event of a conflict between this Agreement, the Board of Directors, and/or the future implementation of a Policies and Procedures Manual and/or existing practices, the terms of this Agreement shall govern.

   c. Employee shall devote 50% of Employee's full business time and effort to the business and affairs of the Company. The Company acknowledges that Employee is currently engaged in activities and consultancies in addition to Employee's employment relationship with the Company, and that Employee may establish additional outside relationships and activities without approval by the Company so long as they do not unreasonably interfere with Employee's duties hereunder.

2. **Term of Employment.** This Agreement, and Employee's employment hereunder, shall commence on the Effective Date and shall continue until terminated in accordance with this Section 2 (the "Term of Employment"). The parties acknowledge, subject to the provisions of this Section 2, that Employee's employment with the Company is on an at-will basis, and either Company or Employee may therefore terminate the Employee's employment, with or without cause, at any time and for any reason upon the terms and conditions specified in this Section 2 below.

   a. This Agreement and Employee's employment hereunder may be terminated at any time and for any reason not constituting a Termination With Cause (as defined below) upon thirty (30) days' prior written notice by the Company to Employee (a "Termination Without Cause").

   b. This Agreement and Employee's employment hereunder may be terminated at any time immediately for Cause (as defined below) upon written notice to Employee specifying in reasonable detail the acts or omissions constituting Cause (a "Termination With Cause").

   c. Employee may terminate Employee's employment hereunder at any time and for any reason upon no less than thirty (30) days' prior written notice to the Company.

   d. Employee shall have the right to resign from employment for "Good Reason" if: (i) there is a material adverse change or material diminution in Employee's duties, responsibilities, functions, reporting lines, or title with Company, (ii) there is a material reduction in the compensation payable to Employee hereunder, or (iii) there is a material breach of the provisions of this Agreement by the Company. Employee cannot terminate Employee's employment for Good Reason unless Employee has provided written notice to the Company of the existence of the circumstances providing grounds for termination for Good Reason within fifteen (15) days of the initial existence of such grounds, and if curable, Company has had at least thirty (30) days from the date on which such notice is provided to cure such circumstances (and has failed to cure such circumstances within such period). If not curable, or if Company has not, within such thirty (30) day period, cured the circumstances providing grounds for termination for Good Reason, and Employee does not terminate Employee's own employment for Good Reason within ten (10) days after the expiration of Company's cure period in the preceding sentence, Employee will be deemed to have waived Employee's right to terminate for Good Reason with respect to such grounds. A resignation that is effected in accordance with this paragraph is referred to as a "Good Reason Resignation."

   e. In the event of a Termination Without Cause or a Good Reason Resignation, the Employee shall be paid Employee's normal monthly Base Salary (as defined below) for a period of three (3) months following the effective date of termination of employment, which shall constitute Employee's full and complete entitlement to severance compensation. However, the right to receive such severance compensation is conditioned upon Employee signing (and not revoking), by the twenty-first (21st) day after Employee's last day of payment, a general release of all claims in a form provided by the Company releasing all claims against the Company and its officers, directors, stockholders, and affiliates (provided that such release shall exclude Employee's right to receive severance compensation hereunder).

   f. As used herein, the term "Cause" shall mean (i) commission of a willful act of dishonesty in the course of Employee's duties hereunder or misappropriation of funds, theft, or embezzlement by Employee of Company funds or property, (ii) conviction by a court of competent jurisdiction of, or plea of no contest to, a crime constituting a felony or conviction in respect of, or plea of no contest to, any act involving fraud, dishonesty or moral turpitude, (iii) Employee's gross or willful misconduct (whether or not directly related to the Company or its business) or illegal conduct that impairs the performance of Employee's duties or that is injurious to the Company, including without limitation injurious to the reputation of the Company, (iv) Employee's performance under the influence of controlled substances (other than those taken pursuant to a medical doctor's orders), or continued habitual intoxication, during working hours, (v) Employee's personal misconduct or refusal or material failure to timely perform Employee's duties and responsibilities or to timely carry out the lawful directives of Company, which, if capable of being cured shall not have been cured, within thirty (30) days after Company shall have advised Employee in writing of its intention to terminate Employee's employment; provided, that such right to cure shall not apply to any subsequent act or omission of a substantially similar nature or type, or (vi) Employee's material non-compliance with the terms of this Agreement or any Company policy, which, if capable of being cured, shall not have been cured within thirty (30) days after Company shall have advised Employee in writing of its intention to terminate Employee's employment for such reason.

g. Notwithstanding any provision of this Agreement to the contrary, the obligations and commitments under Sections 5 through 10 of this Agreement shall survive and continue in full force and effect in accordance with their terms notwithstanding any termination of Employee's employment for any reason or termination of this Agreement for any reason.

3. **Compensation.** The Company shall pay Employee an initial base salary of $110,000 per annum beginning on the Effective Date, provided, however, that if the Effective Date is a date other than the first day of such month, Employee's Base Salary will be prorated based on the number of days then remaining during such month and continuing for the remaining Term of Employment as defined in Section 2 herein. The Employee's Base Salary shall be paid monthly after the deduction of appropriate federal, state, and local withholding taxes. Bonus Compensation may be paid to Employee in the discretion of the Company's Board of Directors, including at its annual review of Employee's compensation.

4. **Expenses.** The Company will reimburse Employee for all reasonable out-of-pocket travel and other expenses incurred by Employee during the Term of Employment in providing services hereunder, subject to any requirements or conditions as may be set forth in any expense reimbursement policy or procedures as may be adopted from time to time by the Company.

5. **Disclosure of Inventions.** During the Term of Employment, Employee shall promptly disclose in confidence to the Company all inventions, improvements, designs, original works of authorship, formulas, processes, compositions of matter, computer software programs, databases, mask works and trade secrets made or discovered by Employee that: (i) are related to, expand, continue and/or advance the Company's Proprietary Assets or the potential manufacture, formulation, use, efficacy or safety thereof; and/or (ii) are made or discovered as a direct result of the performance of services hereunder (the "Inventions"). The Company's "Proprietary Assets" are defined as all discoveries, product candidates, molecules, processes, potential therapies, and/or technologies that the Company treats as proprietary and/or a trade secret. Employee is hereby given written notice that, as of the date hereof, the Company's Proprietary Assets include the compound referred to as "MIRA1a," which is described in patent filings. For clarity, regardless of written notice, the Company's Proprietary Assets will include any and all Inventions made or discovered by Employee during the Term of Employment provided the Invention is made or discovered pursuant to subparagraph (i) or (ii) above.

6. **Work for Hire; Assignment of Inventions.** Employee acknowledges and agrees that any copyrightable works prepared within the scope of involvement with the Company are "works for hire" under the United States Copyright Act and that the Company will be considered the author and owner of such copyrightable works. Employee agrees that all Inventions that: (i) are developed using equipment, supplies facilities or trade secrets of the Company, (ii) result from work performed for the Company, or (iii) relate to any of the Company's Proprietary Assets will be the sole and exclusive property of, and are hereby irrevocably assigned by Employee to, the Company.

7. **Assignment of Other Rights.** In addition to the foregoing assignment of Inventions to the Company, Employee hereby irrevocably transfers and assigns to the Company: (i) all worldwide patents, patent applications, copyrights, mask works, trade secrets and other intellectual property rights in any Invention within the scope of involvement with the Company; and (ii) any and all "Moral Rights" (as defined below) that Employee may have in or with respect to any Invention within the scope of involvement with the Company. Employee also hereby forever waives and agrees never to assert any and all Moral Rights he may have in or with respect to any Invention, even after termination of involvement with the Company. "Moral Rights" mean any rights to claim authorship of an Invention, to object to or prevent the modification of any Invention, or to withdraw from circulation or control the publication or distribution of any Invention, and any similar right, existing under judicial or statutory law of any country in the world, or under any treaty, regardless of whether or not such right is denominated or generally referred to as a "moral right."

8. **Assistance.** Employee agrees to assist the Company in every proper way to obtain for the Company and enforce patents, copyrights, mask work rights, trade secret rights and other legal protections for the Company's Inventions in any and all countries. Employee will execute any documents that the Company may reasonably request for use in obtaining or enforcing such patents, copyrights, mask work rights, trade secrets and other legal protections. Employee's obligations under this paragraph will continue beyond the termination of this Agreement, provided that the Company will compensate Employee at a reasonable rate after such termination for time or expenses actually spent at the Company's request on such assistance. Employee appoints the Chief Financial Officer of the Company as attorney-in-fact to execute documents on Employee's behalf for this purpose upon Employee's review and approval of such documents.

9. **Proprietary Information.** Employee understands that Employee's participation in this Agreement with the Company creates a relationship of confidence and trust with respect to any information (including Trade Secrets) that may be disclosed to Employee by or on behalf of the Company that relates to the businesses, assets, or financial position of the Company or to the business, assets, or financial positions of any affiliate, customer or supplier of the Company or any other party with whom the Company agrees to hold information of such party in confidence (the "Proprietary Information"). Such Proprietary Information includes, but is not limited to, Inventions, marketing plans, product plans, business strategies, financial information, forecasts, personnel information, customer lists, domain names or any other material information, which is not generally available to the public.

10. **Confidentiality.** At all times, both during the Term of Employment and at all times thereafter, Employee will keep and hold all Proprietary Information in strict confidence and trust. Employee will not use or disclose any Proprietary Information without the prior written consent of the Company, except as may be necessary to perform Employee's duties for the benefit of the Company. Upon termination of Employee's involvement with the Company, Employee will promptly deliver to the Company all documents and materials of any nature pertaining to Employee's work with the Company. Employee will not take with Employee any documents or materials or copies thereof containing any Proprietary Information. As used herein, the term "Trade Secret" means any technical or nontechnical data, formula, pattern, compilation, program, device, method, technique, drawing, process, financial data, financial plan, product plan, list of actual or potential customers or suppliers, or other information similar to any of the foregoing, which (i) derives economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can derive economic value from its disclosure or use; and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. Employee shall keep all Trade Secrets of the Company for as long as the Company maintains them as a trade secret. In addition to the requirements set forth above, Employee agrees that the restrictions in this Agreement regarding the use or disclosure of Proprietary Information, including, without limitation, the restrictions in this Agreement regarding the use or disclosure of Trade Secrets, shall be in addition to any restrictions imposed by law in the absence of contract.

11. **No Breach of Other Agreement.** Employee represents that Employee's performance of all the terms of this Agreement will not breach any agreement with any former or current employer or other party. Employee represents that Employee will not bring with Employee to the Company or use in the performance of Employee's duties for the Company any documents or materials or intangibles of a former employer or third party that are not generally available to the public or have not been legally transferred to the Company.

12. **Injunctive Relief.** Employee understands that in the event of a breach or threatened breach of this Agreement by Employee, the Company may suffer irreparable harm and will therefore be entitled to injunctive relief to enforce this Agreement.

13. **Governing Law; Severability.** This Agreement will be governed by and construed in accordance with the laws of the State of Florida, without giving effect to that body of laws pertaining to conflict of law. If any provision of this Agreement is determined by any court or arbitrator of competent jurisdiction to be invalid, illegal or unenforceable in any respect, such provision will be enforced to the maximum extent possible given the intent of the parties hereto. If such clause or provision cannot be so enforced, such provision shall be stricken from this Agreement and the remainder of this Agreement shall be enforced as if such invalid, illegal or unenforceable clause or provision had (to the extent not enforceable) never been contained in this Agreement. Notwithstanding the foregoing, if the value of this Agreement based upon the substantial benefit of the bargain for any party is materially impaired, which determination as made by the presiding court or arbitrator of competent jurisdiction shall be binding, then this Agreement will not be enforceable against such affected party and both parties agree to renegotiate such provision(s) in good faith.

14. **Counterparts.** This Agreement may be executed in any number of counterparts, each of which when so executed and delivered will be deemed an original, and all of which together shall constitute one and the same agreement. Counterparts may be delivered via facsimile, electronic mail (including .pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

15. **Entire Agreement.** This Agreement and the documents referred to herein or referencing this Agreement constitute the entire agreement and understanding of the parties with respect to the subject matter of this Agreement, and supersede all prior understandings and agreements, whether oral or written, between or among the parties hereto with respect to the specific subject matter hereof and Employee's employment with the Company.

16. **Amendment and Waiver.** This Agreement may be amended only by a written agreement executed by each of the parties hereto. No amendment of or waiver of, or modification of any obligation under this Agreement will be enforceable unless set forth in a writing signed by the party against which enforcement is sought.

IN WITNESS WHEREOF, the Company has caused this Employment Agreement to be signed by its officer pursuant to the authority of its Board, and the Employee has executed this Employment Agreement, as of the day and year first written above.

MIRA PHARMACEUTICALS, INC.

By: Michelle Yanez
Title: Chief Financial Officer

Erez Aminov, individually

Exhibit 10.8

Employment Agreement

This Employment Agreement (this "Agreement") is made and entered into as of April 28, 2023 (the "Effective Date"), by and between **MIRA Pharmaceuticals, Inc.** (the "Company") and **Michelle Yanez** ("Employee").

In consideration of the mutual promises and covenants set forth herein, and other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Company and Employee hereby agree as follows:

1. **Position of Employment.**

   a. The Company will employ the Employee in the position of Chief Financial Officer, Treasurer, and Secretary, and, in that position, Employee will report to the Company's Chief Executive Officer. Employee's duties shall include (i) the duties customarily associated with the positions of Chief Financial Officer, Treasurer, and Secretary, including serving as the Company's principal financial and accounting officer, and (ii) such other reasonable related duties as the Company or its Board of Directors may assign to Employee from time to time (including service to subsidiaries of the Company for no additional consideration). The Company retains the right to change Employee's title, duties, and reporting relationships as may be determined to be in the best interests of the Company; provided, however, that any such change shall be consistent with Employee's training, experience, and qualifications.

   b. The terms and conditions of the Employee's employment shall, to the extent not addressed or described in this Agreement, be governed by the Company's Board of Directors. In addition, the Company in its discretion may adopt a formal Policies and Procedures Manual for all employees to adhere to. In the event of a conflict between this Agreement, the Board of Directors, and/or the future implementation of a Policies and Procedures Manual and/or existing practices, the terms of this Agreement shall govern.

   c. Employee shall devote Employee's full business time and effort to the business and affairs of the Company. The Company acknowledges that Employee is currently engaged in activities and consultancies in addition to Employee's employment relationship with the Company, and that Employee may establish additional outside relationships and activities without approval by the Company so long as they do not unreasonably interfere with Employee's duties hereunder.

2. **Term of Employment.** This Agreement, and Employee's employment hereunder, shall commence on the Effective Date and shall continue until terminated in accordance with this Section 2 (the "Term of Employment"). The parties acknowledge, subject to the provisions of this Section 2, that Employee's employment with the Company is on an at-will basis, and either Company or Employee may therefore terminate the Employee's employment, with or without cause, at any time and for any reason upon the terms and conditions specified in this Section 2 below.

   a. This Agreement and Employee's employment hereunder may be terminated at any time and for any reason not constituting a Termination With Cause (as defined below) upon thirty (30) days' prior written notice by the Company to Employee (a "Termination Without Cause").

   b. This Agreement and Employee's employment hereunder may be terminated at any time immediately for Cause (as defined below) upon written notice to Employee specifying in reasonable detail the acts or omissions constituting Cause (a "Termination With Cause").

   c. Employee may terminate Employee's employment hereunder at any time and for any reason upon no less than thirty (30) days' prior written notice to the Company.

   d. Employee shall have the right to resign from employment for "Good Reason" if: (i) there is a material adverse change or material diminution in Employee's duties, responsibilities, functions, reporting lines, or title with Company, (ii) there is a material reduction in the compensation payable to Employee hereunder, or (iii) there is a material breach of the provisions of this Agreement by the Company. Employee cannot terminate Employee's employment for Good Reason unless Employee has provided written notice to the Company of the existence of the circumstances providing grounds for termination for Good Reason within fifteen (15) days of the initial existence of such grounds, and if curable, Company has had at least thirty (30) days from the date on which such notice is provided to cure such circumstances (and has failed to cure such circumstances within such period). If not curable, or if Company has not, within such thirty (30) day period, cured the circumstances providing grounds for termination for Good Reason, and Employee does not terminate Employee's own employment for Good Reason within ten (10) days after the expiration of Company's cure period in the preceding sentence, Employee will be deemed to have waived Employee's right to terminate for Good Reason with respect to such grounds. A resignation that is effected in accordance with this paragraph is referred to as a "Good Reason Resignation."

   e. In the event of a Termination Without Cause or a Good Reason Resignation, the Employee shall be paid Employee's normal monthly Base Salary (as defined below) for a period of three (3) months following the effective date of termination of employment, which shall constitute Employee's full and complete entitlement to severance compensation. However, the right to receive such severance compensation is conditioned upon Employee signing (and not revoking), by the twenty-first (21st) day after Employee's last day of payment, a general release of all claims in a form provided by the Company releasing all claims against the Company and its officers, directors, stockholders, and affiliates (provided that such release shall exclude Employee's right to receive severance compensation hereunder).

   f. As used herein, the term "Cause" shall mean (i) commission of a willful act of dishonesty in the course of Employee's duties hereunder or misappropriation of funds, theft, or embezzlement by Employee of Company funds or property, (ii) conviction by a court of competent jurisdiction of, or plea of no contest to, a crime constituting a felony or conviction in respect of, or plea of no contest to, any act involving fraud, dishonesty or moral turpitude, (iii) Employee's gross or willful misconduct (whether or not directly related to the Company or its business) or illegal conduct that impairs the performance of Employee's duties or that is injurious to the Company, including without limitation injurious to the reputation of the Company, (iv) Employee's performance under the influence of controlled substances (other than those taken pursuant to a medical doctor's orders), or continued habitual intoxication, during working hours, (v) Employee's personal misconduct or refusal or material failure to timely perform Employee's duties and responsibilities or to timely carry out the lawful directives of Company, which, if capable of being cured shall not have been cured, within thirty (30) days after Company shall have advised Employee in writing of its intention to terminate Employee's employment; provided, that such right to cure shall not apply to any subsequent act or omission of a substantially similar nature or type, or (vi) Employee's material non-compliance with the terms of this Agreement or any Company policy, which, if capable of being cured, shall not have been cured within thirty (30) days after Company shall have advised Employee in writing of its intention to terminate Employee's employment for such reason.

g. Notwithstanding any provision of this Agreement to the contrary, the obligations and commitments under Sections 5 through 10 of this Agreement shall survive and continue in full force and effect in accordance with their terms notwithstanding any termination of Employee's employment for any reason or termination of this Agreement for any reason.

3. **Compensation.** The Company shall pay Employee an initial base salary of $165,000 per annum beginning on the Effective Date, provided, however, that if the Effective Date is a date other than the first day of such month, Employee's Base Salary will be prorated based on the number of days then remaining during such month and continuing for the remaining Term of Employment as defined in Section 2 herein. The Employee's Base Salary shall be paid monthly after the deduction of appropriate federal, state, and local withholding taxes. Bonus Compensation may be paid to Employee in the discretion of the Company's Board of Directors, including at its annual review of Employee's compensation.

4. **Expenses.** The Company will reimburse Employee for all reasonable out-of-pocket travel and other expenses incurred by Employee during the Term of Employment in providing services hereunder, subject to any requirements or conditions as may be set forth in any expense reimbursement policy or procedures as may be adopted from time to time by the Company.

5. **Disclosure of Inventions.** During the Term of Employment, Employee shall promptly disclose in confidence to the Company all inventions, improvements, designs, original works of authorship, formulas, processes, compositions of matter, computer software programs, databases, mask works and trade secrets made or discovered by Employee that: (i) are related to, expand, continue and/or advance the Company's Proprietary Assets or the potential manufacture, formulation, use, efficacy or safety thereof; and/or (ii) are made or discovered as a direct result of the performance of services hereunder (the "Inventions"). The Company's "Proprietary Assets" are defined as all discoveries, product candidates, molecules, processes, potential therapies, and/or technologies that the Company treats as proprietary and/or a trade secret. Employee is hereby given written notice that, as of the date hereof, the Company's Proprietary Assets include the compound referred to as "MIRA1a," which is described in patent filings. For clarity, regardless of written notice, the Company's Proprietary Assets will include any and all Inventions made or discovered by Employee during the Term of Employment provided the Invention is made or discovered pursuant to subparagraph (i) or (ii) above.

6. **Work for Hire; Assignment of Inventions.** Employee acknowledges and agrees that any copyrightable works prepared within the scope of involvement with the Company are "works for hire" under the United States Copyright Act and that the Company will be considered the author and owner of such copyrightable works. Employee agrees that all Inventions that: (i) are developed using equipment, supplies facilities or trade secrets of the Company, (ii) result from work performed for the Company, or (iii) relate to any of the Company's Proprietary Assets will be the sole and exclusive property of, and are hereby irrevocably assigned by Employee to, the Company.

7. **Assignment of Other Rights.** In addition to the foregoing assignment of Inventions to the Company, Employee hereby irrevocably transfers and assigns to the Company: (i) all worldwide patents, patent applications, copyrights, mask works, trade secrets and other intellectual property rights in any Invention within the scope of involvement with the Company; and (ii) any and all "Moral Rights" (as defined below) that Employee may have in or with respect to any Invention within the scope of involvement with the Company. Employee also hereby forever waives and agrees never to assert any and all Moral Rights he may have in or with respect to any Invention, even after termination of involvement with the Company. "Moral Rights" mean any rights to claim authorship of an Invention, to object to or prevent the modification of any Invention, or to withdraw from circulation or control the publication or distribution of any Invention, and any similar right, existing under judicial or statutory law of any country in the world, or under any treaty, regardless of whether or not such right is denominated or generally referred to as a "moral right."

8. **Assistance.** Employee agrees to assist the Company in every proper way to obtain for the Company and enforce patents, copyrights, mask work rights, trade secret rights and other legal protections for the Company's Inventions in any and all countries. Employee will execute any documents that the Company may reasonably request for use in obtaining or enforcing such patents, copyrights, mask work rights, trade secrets and other legal protections. Employee's obligations under this paragraph will continue beyond the termination of this Agreement, provided that the Company will compensate Employee at a reasonable rate after such termination for time or expenses actually spent at the Company's request on such assistance. Employee appoints the Chief Executive Officer of the Company as attorney-in-fact to execute documents on Employee's behalf for this purpose upon Employee's review and approval of such documents.

9. **Proprietary Information.** Employee understands that Employee's participation in this Agreement with the Company creates a relationship of confidence and trust with respect to any information (including Trade Secrets) that may be disclosed to Employee by or on behalf of the Company that relates to the businesses, assets, or financial position of the Company or to the business, assets, or financial positions of any affiliate, customer or supplier of the Company or any other party with whom the Company agrees to hold information of such party in confidence (the "Proprietary Information"). Such Proprietary Information includes, but is not limited to, Inventions, marketing plans, product plans, business strategies, financial information, forecasts, personnel information, customer lists, domain names or any other material information, which is not generally available to the public.

10. **Confidentiality.** At all times, both during the Term of Employment and at all times thereafter, Employee will keep and hold all Proprietary Information in strict confidence and trust. Employee will not use or disclose any Proprietary Information without the prior written consent of the Company, except as may be necessary to perform Employee's duties for the benefit of the Company. Upon termination of Employee's involvement with the Company, Employee will promptly deliver to the Company all documents and materials of any nature pertaining to Employee's work with the Company. Employee will not take with Employee any documents or materials or copies thereof containing any Proprietary Information. As used herein, the term "Trade Secret" means any technical or nontechnical data, formula, pattern, compilation, program, device, method, technique, drawing, process, financial data, financial plan, product plan, list of actual or potential customers or suppliers, or other information similar to any of the foregoing, which (i) derives economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can derive economic value from its disclosure or use; and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. Employee shall keep all Trade Secrets of the Company for as long as the Company maintains them as a trade secret. In addition to the requirements set forth above, Employee agrees that the restrictions in this Agreement regarding the use or disclosure of Proprietary Information, including, without limitation, the restrictions in this Agreement regarding the use or disclosure of Trade Secrets, shall be in addition to any restrictions imposed by law in the absence of contract.

11. **No Breach of Other Agreement.** Employee represents that Employee's performance of all the terms of this Agreement will not breach any agreement with any former or current employer or other party. Employee represents that Employee will not bring with Employee to the Company or use in the performance of Employee's duties for the Company any documents or materials or intangibles of a former employer or third party that are not generally available to the public or have not been legally transferred to the Company.

12. **Injunctive Relief.** Employee understands that in the event of a breach or threatened breach of this Agreement by Employee, the Company may suffer irreparable harm and will therefore be entitled to injunctive relief to enforce this Agreement.

13. **Governing Law; Severability.** This Agreement will be governed by and construed in accordance with the laws of the State of Florida, without giving effect to that body of laws pertaining to conflict of law. If any provision of this Agreement is determined by any court or arbitrator of competent jurisdiction to be invalid, illegal or unenforceable in any respect, such provision will be enforced to the maximum extent possible given the intent of the parties hereto. If such clause or provision cannot be so enforced, such provision shall be stricken from this Agreement and the remainder of this Agreement shall be enforced as if such invalid, illegal or unenforceable clause or provision had (to the extent not enforceable) never been contained in this Agreement. Notwithstanding the foregoing, if the value of this Agreement based upon the substantial benefit of the bargain for any party is materially impaired, which determination as made by the presiding court or arbitrator of competent jurisdiction shall be binding, then this Agreement will not be enforceable against such affected party and both parties agree to renegotiate such provision(s) in good faith.

14. **Counterparts.** This Agreement may be executed in any number of counterparts, each of which when so executed and delivered will be deemed an original, and all of which together shall constitute one and the same agreement. Counterparts may be delivered via facsimile, electronic mail (including .pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

15. **Entire Agreement.** This Agreement and the documents referred to herein or referencing this Agreement constitute the entire agreement and understanding of the parties with respect to the subject matter of this Agreement, and supersede all prior understandings and agreements, whether oral or written, between or among the parties hereto with respect to the specific subject matter hereof and Employee's employment with the Company.

16. **Amendment and Waiver.** This Agreement may be amended only by a written agreement executed by each of the parties hereto. No amendment of or waiver of, or modification of any obligation under this Agreement will be enforceable unless set forth in a writing signed by the party against which enforcement is sought.

IN WITNESS WHEREOF, the Company has caused this Employment Agreement to be signed by its officer pursuant to the authority of its Board, and the Employee has executed this Employment Agreement, as of the day and year first written above.

MIRA PHARMACEUTICALS, INC.

/s/ Erez Aminov

By: Erez Aminov
Title: Chief Executive Officer

/s/ Michelle Yanez

Michelle Yanez, individually

Exhibit 10.9

Employment Agreement

This Employment Agreement (this "Agreement") is made and entered into as of April 28, 2023 (the "Effective Date"), by and between **MIRA Pharmaceuticals, Inc.** (the "Company") and **Chris Chapman** ("Employee").

In consideration of the mutual promises and covenants set forth herein, and other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Company and Employee hereby agree as follows:

1. **Position of Employment.**

   a. The Company will employ the Employee in the position of Executive Chairman, and, in that position, Employee will report to the Company's Board of Directors. Employee's duties shall include (i) the duties customarily associated with the position of Executive Chairman of the Board of Directors, and (ii) overseeing regulatory affairs and drug development activities of the Company (including service to subsidiaries of the Company for no additional consideration). The Company retains the right to change Employee's title, duties, and reporting relationships as may be determined to be in the best interests of the Company; provided, however, that any such change shall be consistent with Employee's training, experience, and qualifications.

   b. The terms and conditions of the Employee's employment shall, to the extent not addressed or described in this Agreement, be governed by the Company's Board of Directors. In addition, the Company in its discretion may adopt a formal Policies and Procedures Manual for all employees to adhere to. In the event of a conflict between this Agreement, the Board of Directors, and/or the future implementation of a Policies and Procedures Manual and/or existing practices, the terms of this Agreement shall govern.

   c. Employee shall devote 50% of Employee's full business time and effort to the business and affairs of the Company. The Company acknowledges that Employee is currently engaged in activities and consultancies in addition to Employee's employment relationship with the Company, and that Employee may establish additional outside relationships and activities without approval by the Company so long as they do not unreasonably interfere with Employee's duties hereunder.

2. **Term of Employment.** This Agreement, and Employee's employment hereunder, shall commence on the Effective Date and shall continue until terminated in accordance with this Section 2 (the "Term of Employment"). The parties acknowledge, subject to the provisions of this Section 2, that Employee's employment with the Company is on an at- will basis, and either Company or Employee may therefore terminate the Employee's employment, with or without cause, at any time and for any reason upon the terms and conditions specified in this Section 2 below.

   a. This Agreement and Employee's employment hereunder may be terminated at any time and for any reason not constituting a Termination With Cause (as defined below) upon thirty (30) days' prior written notice by the Company to Employee (a "Termination Without Cause").

   b. This Agreement and Employee's employment hereunder may be terminated at any time immediately for Cause (as defined below) upon written notice to Employee specifying in reasonable detail the acts or omissions constituting Cause (a "Termination With Cause").

   c. Employee may terminate Employee's employment hereunder at any time and for any reason upon no less than thirty (30) days' prior written notice to the Company.

   d. Employee shall have the right to resign from employment for "Good Reason" if: (i) there is a material adverse change or material diminution in Employee's duties, responsibilities, functions, reporting lines, or title with Company, (ii) there is a material reduction in the compensation payable to Employee hereunder, or (iii) there is a material breach of the provisions of this Agreement by the Company. Employee cannot terminate Employee's employment for Good Reason unless Employee has provided written notice to the Company of the existence of the circumstances providing grounds for termination for Good Reason within fifteen (15) days of the initial existence of such grounds, and if curable, Company has had at least thirty (30) days from the date on which such notice is provided to cure such circumstances (and has failed to cure such circumstances within such period). If not curable, or if Company has not, within such thirty (30) day period, cured the circumstances providing grounds for termination for Good Reason, and Employee does not terminate Employee's own employment for Good Reason within ten (10) days after the expiration of Company's cure period in the preceding sentence, Employee will be deemed to have waived Employee's right to terminate for Good Reason with respect to such grounds. A resignation that is effected in accordance with this paragraph is referred to as a "Good Reason Resignation."

   e. In the event of a Termination Without Cause or a Good Reason Resignation, the Employee shall be paid Employee's normal monthly Base Salary (as defined below) for a period of three (3) months following the effective date of termination of employment, which shall constitute Employee's full and complete entitlement to severance compensation. However, the right to receive such severance compensation is conditioned upon Employee signing (and not revoking), by the twenty-first (21st) day after Employee's last day of payment, a general release of all claims in a form provided by the Company releasing all claims against the Company and its officers, directors, stockholders, and affiliates (provided that such release shall exclude Employee's right to receive severance compensation hereunder).

   f. As used herein, the term "Cause" shall mean (i) commission of a willful act of dishonesty in the course of Employee's duties hereunder or misappropriation of funds, theft, or embezzlement by Employee of Company funds or property, (ii) conviction by a court of competent jurisdiction of, or plea of no contest to, a crime constituting a felony or conviction in respect of, or plea of no contest to, any act involving fraud, dishonesty or moral turpitude, (iii) Employee's gross or willful misconduct (whether or not directly related to the Company or its business) or illegal conduct that impairs the performance of Employee's duties or that is injurious to the Company, including without limitation injurious to the reputation of the Company, (iv) Employee's performance under the influence of controlled substances (other than those taken pursuant to a medical doctor's orders), or continued habitual intoxication, during working hours, (v) Employee's personal misconduct or refusal or material failure to timely perform Employee's duties and responsibilities or to timely carry out the lawful directives of Company, which, if capable of being cured shall not have been cured, within thirty (30) days after Company shall have advised Employee in writing of its intention to terminate Employee's employment; provided, that such right to cure shall not apply to any subsequent act or omission of a substantially similar nature or type, or (vi) Employee's material non-compliance with the terms of this Agreement or any Company policy, which, if capable of being cured, shall not have been cured within thirty (30) days after Company shall have advised Employee in writing of its intention to terminate Employee's employment for such reason.

   g. Notwithstanding any provision of this Agreement to the contrary, the obligations and commitments under Sections 5 through 10 of this Agreement shall survive and continue in full force and effect in accordance with their terms notwithstanding any termination of Employee's employment for any reason or termination of this Agreement for any reason.

3. **Compensation.** The Company shall pay Employee an initial base salary of $150,000 per annum beginning on the Effective Date, provided, however, that if the Effective Date is a date other than the first day of such month, Employee's Base Salary will be prorated based on the number of days then remaining during such month and continuing for the remaining Term of Employment as defined in Section 2 herein. The Employee's Base Salary shall be paid monthly after the deduction of appropriate federal, state, and local withholding taxes. Bonus Compensation may be paid to Employee in the discretion of the Company's Board of Directors, including at its annual review of Employee's compensation.

4. **Expenses.** The Company will reimburse Employee for all reasonable out-of-pocket travel and other expenses incurred by Employee during the Term of Employment in providing services hereunder, subject to any requirements or conditions as may be set forth in any expense reimbursement policy or procedures as may be adopted from time to time by the Company.

5. **Disclosure of Inventions.** During the Term of Employment, Employee shall promptly disclose in confidence to the Company all inventions, improvements, designs, original works of authorship, formulas, processes, compositions of matter, computer software programs, databases, mask works and trade secrets made or discovered by Employee that: (i) are related to, expand, continue and/or advance the Company's Proprietary Assets or the potential manufacture, formulation, use, efficacy or safety thereof; and/or (ii) are made or discovered as a direct result of the performance of services hereunder (the "Inventions"). The Company's "Proprietary Assets" are defined as all discoveries, product candidates, molecules, processes, potential therapies, and/or technologies that the Company treats as proprietary and/or a trade secret. Employee is hereby given written notice that, as of the date hereof, the Company's Proprietary Assets include the compound referred to as "MIRA1a," which is described in patent filings. For clarity, regardless of written notice, the Company's Proprietary Assets will include any and all Inventions made or discovered by Employee during the Term of Employment provided the Invention is made or discovered pursuant to subparagraph (i) or (ii) above.

6. **Work for Hire; Assignment of Inventions.** Employee acknowledges and agrees that any copyrightable works prepared within the scope of involvement with the Company are "works for hire" under the United States Copyright Act and that the Company will be considered the author and owner of such copyrightable works. Employee agrees that all Inventions that: (i) are developed using equipment, supplies facilities or trade secrets of the Company, (ii) result from work performed for the Company, or (iii) relate to any of the Company's Proprietary Assets will be the sole and exclusive property of, and are hereby irrevocably assigned by Employee to, the Company.

7. **Assignment of Other Rights.** In addition to the foregoing assignment of Inventions to the Company, Employee hereby irrevocably transfers and assigns to the Company: (i) all worldwide patents, patent applications, copyrights, mask works, trade secrets and other intellectual property rights in any Invention within the scope of involvement with the Company; and (ii) any and all "Moral Rights" (as defined below) that Employee may have in or with respect to any Invention within the scope of involvement with the Company. Employee also hereby forever waives and agrees never to assert any and all Moral Rights he may have in or with respect to any Invention, even after termination of involvement with the Company. "Moral Rights" mean any rights to claim authorship of an Invention, to object to or prevent the modification of any Invention, or to withdraw from circulation or control the publication or distribution of any Invention, and any similar right, existing under judicial or statutory law of any country in the world, or under any treaty, regardless of whether or not such right is denominated or generally referred to as a "moral right."

8. **Assistance.** Employee agrees to assist the Company in every proper way to obtain for the Company and enforce patents, copyrights, mask work rights, trade secret rights and other legal protections for the Company's Inventions in any and all countries. Employee will execute any documents that the Company may reasonably request for use in obtaining or enforcing such patents, copyrights, mask work rights, trade secrets and other legal protections. Employee's obligations under this paragraph will continue beyond the termination of this Agreement, provided that the Company will compensate Employee at a reasonable rate after such termination for time or expenses actually spent at the Company's request on such assistance. Employee appoints the Chief Executive Officer of the Company as attorney-in-fact to execute documents on Employee's behalf for this purpose upon Employee's review and approval of such documents.

9. **Proprietary Information.** Employee understands that Employee's participation in this Agreement with the Company creates a relationship of confidence and trust with respect to any information (including Trade Secrets) that may be disclosed to Employee by or on behalf of the Company that relates to the businesses, assets, or financial position of the Company or to the business, assets, or financial positions of any affiliate, customer or supplier of the Company or any other party with whom the Company agrees to hold information of such party in confidence (the "Proprietary Information"). Such Proprietary Information includes, but is not limited to, Inventions, marketing plans, product plans, business strategies, financial information, forecasts, personnel information, customer lists, domain names or any other material information, which is not generally available to the public.

10. **Confidentiality.** At all times, both during the Term of Employment and at all times thereafter, Employee will keep and hold all Proprietary Information in strict confidence and trust. Employee will not use or disclose any Proprietary Information without the prior written consent of the Company, except as may be necessary to perform Employee's duties for the benefit of the Company. Upon termination of Employee's involvement with the Company, Employee will promptly deliver to the Company all documents and materials of any nature pertaining to Employee's work with the Company. Employee will not take with Employee any documents or materials or copies thereof containing any Proprietary Information. As used herein, the term "Trade Secret" means any technical or nontechnical data, formula, pattern, compilation, program, device, method, technique, drawing, process, financial data, financial plan, product plan, list of actual or potential customers or suppliers, or other information similar to any of the foregoing, which (i) derives economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can derive economic value from its disclosure or use; and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. Employee shall keep all Trade Secrets of the Company for as long as the Company maintains them as a trade secret. In addition to the requirements set forth above, Employee agrees that the restrictions in this Agreement regarding the use or disclosure of Proprietary Information, including, without limitation, the restrictions in this Agreement regarding the use or disclosure of Trade Secrets, shall be in addition to any restrictions imposed by law in the absence of contract.

11. **No Breach of Other Agreement.** Employee represents that Employee's performance of all the terms of this Agreement will not breach any agreement with any former or current employer or other party. Employee represents that Employee will not bring with Employee to the Company or use in the performance of Employee's duties for the Company any documents or materials or intangibles of a former employer or third party that are not generally available to the public or have not been legally transferred to the Company.

12. **Injunctive Relief.** Employee understands that in the event of a breach or threatened breach of this Agreement by Employee, the Company may suffer irreparable harm and will therefore be entitled to injunctive relief to enforce this Agreement.

13. **Governing Law; Severability.** This Agreement will be governed by and construed in accordance with the laws of the State of Florida, without giving effect to that body of laws pertaining to conflict of law. If any provision of this Agreement is determined by any court or arbitrator of competent jurisdiction to be invalid, illegal or unenforceable in any respect, such provision will be enforced to the maximum extent possible given the intent of the parties hereto. If such clause or provision cannot be so enforced, such provision shall be stricken from this Agreement and the remainder of this Agreement shall be enforced as if such invalid, illegal or unenforceable clause or provision had (to the extent not enforceable) never been contained in this Agreement. Notwithstanding the foregoing, if the value of this Agreement based upon the substantial benefit of the bargain for any party is materially impaired, which determination as made by the presiding court or arbitrator of competent jurisdiction shall be binding, then this Agreement will not be enforceable against such affected party and both parties agree to renegotiate such provision(s) in good faith.

14. **Counterparts.** This Agreement may be executed in any number of counterparts, each of which when so executed and delivered will be deemed an original, and all of which together shall constitute one and the same agreement. Counterparts may be delivered via facsimile, electronic mail (including .pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

15. **Entire Agreement.** This Agreement and the documents referred to herein or referencing this Agreement constitute the entire agreement and understanding of the parties with respect to the subject matter of this Agreement, and supersede all prior understandings and agreements, whether oral or written, between or among the parties hereto with respect to the specific subject matter hereof and Employee's employment with the Company.

16. **Amendment and Waiver.** This Agreement may be amended only by a written agreement executed by each of the parties hereto. No amendment of or waiver of, or modification of any obligation under this Agreement will be enforceable unless set forth in a writing signed by the party against which enforcement is sought.

IN WITNESS WHEREOF, the Company has caused this Employment Agreement to be signed by its officer pursuant to the authority of its Board, and the Employee has executed this Employment Agreement, as of the day and year first written above.

MIRA PHARMACEUTICALS, INC.

/s/ Erez Aminov

By: Erez Aminov
Title: Chief Executive Officer

/s/ Chris Chapman

Chris Chapman, individually

FLORIDA DOCUMENTARY STAMP TAX IN THE AMOUNT $2,450.00 HAS BEEN PAID OR WILL BE PAID DIRECTLY TO THE FLORIDA DEPARTMENT OF REVENUE.

PROMISSORY NOTE AND LOAN AGREEMENT

Tampa, FL
$5,000,000 April 28, 2023

FOR VALUE RECEIVED AND IN CONSIDERATION OF THE LOAN, MIRA Pharmaceuticals, Inc., a Florida corporation (the "***Borrower***"), hereby promises to pay to the order of George Cappy, as Trustee of the Bay Shore Trust (the "***Lender***"), the principal sum of Five Million and No/100 Dollars ($5,000,000.00) (the "***Commitment Amount***"), or such lesser amount thereof as may be borrowed from the Lender and then outstanding, together with interest thereon from the date of this Promissory Note and Loan Agreement (this "***Note***"). Interest on any amounts advanced pursuant to this Note (each such amount, an "***Advance***") shall accrue and be paid in the manner set forth in Section 4 of this Note. Subject to the provisions of Section 10 hereof, the outstanding principal of, and any and all accrued and unpaid interest with respect to, this Note shall be due and payable by the Borrower on April 28[1], 2025 (the "***Maturity Date***").

1. Loan Commitment; Borrowing Procedure. Subject to the terms and conditions set forth herein, Lender agrees to make one or more Advances to the Borrower in an aggregate original principal amount up to the Commitment Amount (the "***Loan***"). Subject in all cases to the provisions of Section 2, at any time and from time to time from and after the date hereof and through and including the Maturity Date, during normal business hours, upon not less than three (3) business days prior written notice, the Borrower may deliver to the Lender a written request for an Advance (each, an "***Advance Request***"). On the date set forth in the applicable Advance Request (which date shall be not less than five (5) business days after the date of such Advance Request), the Lender shall (subject to the provisions of Section 2) disburse to the Borrower the full amount set forth in the applicable Advance Request. Any amounts so disbursed will be advanced to the Borrower as a loan and shall be evidenced by, and subject to, the terms and conditions of this Note. Any Advances made by the Lender to the Borrower pursuant to this Note may be repaid by the Borrower (together with any and all interest accrued thereon) at any time without penalty or premium in accordance with the terms hereof. Amounts repaid hereunder may not be reborrowed.

2. Limitations on Borrowing. The Lender shall not have any obligation to make, nor be required to make, any Advances or other extension of credit to the Borrower hereunder if (a) an Event of Default (as defined below) has occurred or (b) Borrower has consummated an initial public offering of its common stock resulting in its common stock trading on a stock exchange or in the over-the-counter market and the Borrower becoming subject to the periodic filing and other obligations under the federal securities law. In no event shall the Lender be obligated to make any Advances or other extension of credit to the Borrower in excess of the Commitment Amount.

[1] To be second anniversary of the date of the Note.

3. Payments Generally. All payments shall be made to the Lender in immediately available funds and in lawful money of the United States of America at the principal office of the Lender, or at such other place as Lender may from time to time designate in writing to the Borrower. Each payment of any amounts owed hereunder shall be applied to the then outstanding obligations under this Note in the following order of priority: *first*, to any fees or other amounts then due hereunder, *second*, to any accrued and unpaid interest with respect to this Note, and, *third*, to the outstanding principal of this Note. The Borrower hereby unconditionally waives (a) any rights to presentment, demand, protest or (except as expressly required hereby) notice of any kind, and (b) any rights of rescission, setoff, counterclaim, suretyship or defense to payment under this Note or otherwise that the Borrower may have or claim against the Lender.

4. Calculation and Payment of Interest. This Note (inclusive of all Advances made hereunder) will bear interest on the outstanding principal amount thereof at a fixed rate as follows: (i) up to and including April 28, 2024[2] (the "Initial Period"), an interest rate equal to seven percent (7.0%) per annum, simple interest and (ii) after the Initial Period and up to and including the date on which this Note is paid in full, an interest rate equal to ten percent (10.0%) per annum, simple interest. Interest shall be calculated based on a year consisting of 365 days and the actual number of days elapsed. Interest shall accrue on a quarterly basis and shall be due and payable on the Maturity Date.

5. Payment of Principal. Unless earlier accelerated in accordance with the provisions hereof following the occurrence of an Event of Default, the unpaid principal balance of this Note (inclusive of all Advances), together with all accrued and unpaid interest, fees and other amounts due hereunder, shall be due and payable in full on the Maturity Date.

6. Prepayments. The Borrower may prepay all or any portion of the outstanding obligations of this Note (including any and all Advances) at any time without penalty or premium.

7. Representations and Warranties of the Borrower. In connection with the transactions provided for herein, the Borrower hereby represents and warrants to the Lender that:

7.1 Organization, Good Standing and Qualification. The Borrower is a corporation duly organized, validly existing and in good standing under the laws of the State of Florida and has all requisite corporate power and authority to carry on its business as now conducted. The Borrower is duly qualified to transact business and is in good standing in each jurisdiction in which the failure to so qualify would have a material adverse effect on its business or properties.

7.2 Authorization. All corporate action has been taken on the part of the Borrower, its officers, directors and shareholders necessary for the authorization, execution and delivery of this Note. The Borrower has taken all corporate action required to make all the obligations of the Borrower reflected herein the valid and enforceable obligations they purport to be.

7.3 Compliance with Other Instruments. The authorization, execution and delivery of this Note will not constitute or result in a material default or violation of any law or regulation applicable to the Borrower or any material term or provision of the Borrower's current Articles of Incorporation or bylaws, or any material agreement or instrument by which it is bound or to which its properties or assets are subject.

[2] To be first anniversary of the date of the Note.

8. Representations and Warranties of the Lender. In connection with the transactions provided for herein, the Lender hereby represents and warrants to the Borrower that:

8.1 Authorization. This Note constitutes the Lender's valid and legally binding obligation, enforceable in accordance with its terms, except as may be limited by (i) applicable bankruptcy, insolvency, reorganization or similar laws relating to or affecting the enforcement of creditors' rights and (ii) laws relating to availability

of specific performance, injunctive relief or other equitable remedies.

8.2 Purchase Entirely for Own Account. The Lender acknowledges that this Note is issued to the Lender in reliance upon the Lender's representation to the Borrower that the Note will be acquired for investment for the Lender's own account, not as a nominee or agent, and not with a view to the resale or distribution of any part thereof, and that such Lender has no present intention of selling, granting any participation in, or otherwise distributing the same. By executing this Note, the Lender further represents that the Lender does not have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participations to such person or to any third person, with respect to this Note.

8.3 Disclosure of Information. The Lender acknowledges that it has received all the information it considers necessary or appropriate for deciding whether to acquire this Note. The Lender further represents that it has had an opportunity to ask questions and receive answers from the Borrower regarding the terms and conditions of the offering of this Note.

8.4 Investment Experience. The Lender is an investor in securities of companies in the development stage and acknowledges that it is able to fend for itself, can bear the economic risk of its investment, and has such knowledge and experience in financial or business matters that it is capable of evaluating the merits and risks of the investment in this Note. If other than an individual, the Lender also represents it has not been organized solely for the purpose of acquiring this Note.

8.5 Accredited Investor. The Lender is an "accredited investor" within the meaning of Rule 501 of Regulation D, as presently in effect, as promulgated by the Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "Act").

8.6 Restricted Securities. The Lender understands that this Note is characterized as a "restricted security" under the federal securities laws inasmuch as it is being acquired from the Borrower in a transaction not involving a public offering and that under such laws and applicable regulations such securities may be resold without registration under the Act, only in certain limited circumstances. In this connection the Lender represents that it is familiar with Rule 144 as promulgated by the SEC under the Act, as presently in effect ("Rule 144"), and understands the resale limitations imposed thereby and by the Act.

8.7 Further Limitations on Disposition. Without in any way limiting the representations and warranties set forth above, the Lender further agrees not to make any disposition of all or any portion of this Note unless and until the transferee has agreed in writing for the benefit of the Borrower to be bound by this Section and:

(a) There is then in effect a registration statement under the Act covering such proposed disposition and such disposition is made in accordance with such registration statement; or

(b) (i) The Lender shall have notified the Borrower of the proposed disposition and shall have furnished the Borrower with a detailed statement of the circumstances surrounding the proposed disposition and (ii) if other than an individual, Lender shall not make any disposition to any of the Borrower's competitors as such is in good faith determined by the Borrower.

9. Warrant. In connection with the issuance of this Note, the Borrower has issued to Lender a warrant to purchase shares of Borrower's common stock.

10. Defaults and Remedies.

10.1 Events of Default. Each of the following events shall be considered an "***Event of Default***" with respect to this Note:

(a) The Borrower shall default in the payment of any part of the principal, interest or other amounts owed to Lender pursuant to this Note, in each case after the same shall become due and payable hereunder, whether at the Maturity Date or at a date fixed for prepayment or by acceleration or otherwise;

(b) Any representation or warranty made by the Borrower herein is determined to have been false, misleading or erroneous in any material respect when made;

(c) The Borrower shall fail to comply in any material respect with any covenant, agreement or other obligation contained in this Note (other than the obligation to pay amounts owed hereunder, which shall be governed by the provisions of Section 10.1(a)) in a timely manner, and such failure shall remain uncured for a period of more than ten
(10) days after the Borrower receives notice of the same;

(d) The Borrower shall make an assignment for the benefit of creditors, or shall admit in writing its inability to pay its debts as they become due, or shall file a voluntary petition for bankruptcy, or shall file any petition or answer seeking for itself any reorganization, arrangement, composition, readjustment, dissolution or similar relief under any present or future statute, law or regulation, or shall file any answer admitting the material allegations of a petition filed against the Borrower in any such proceeding, or shall seek or consent to or acquiesce in the appointment of any trustee, receiver or liquidator of the Borrower, or of all of any substantial part of the properties of the Borrower, or the Borrower or its managers or members shall take any action looking to the dissolution or liquidation of the Borrower; or

(e) There shall have occurred a material adverse change in the assets, operations or prospects of the Borrower, in each case taken as a whole.

10.2 Remedies. Upon the occurrence and during the continuation of an Event of Default underSection 10.1, the entire unpaid principal and accrued and unpaid interest on this Note shall, without presentment, demand, protest or notice of any kind, all of which are hereby expressly waived, be forthwith due and payable (a) immediately upon the occurrence of any Event of Default described in Section 10.1(d) and (b) at the option and upon the declaration of the Lender upon the occurrence of any other Event of Default. Upon the occurrence and during the continuation of an Event of Default under Section 10.1, the Lender may, immediately and without expiration of any period of grace, enforce payment of all amounts due and owing under this Note and exercise any and all other remedies granted to it hereunder.

11. Miscellaneous.

11.1 Successors and Assigns. Except as otherwise provided herein, the terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties; provided, however that the Borrower may not assign its obligations under this Note without the written consent of the Lender. Nothing in this Note, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations or liabilities under or by reason of this Note, except as expressly provided in this Note.

11.2 Governing Law. This Note shall be governed by and construed under the laws of the State of Florida, without regard to its conflict of laws principles. **EACH OF THE BORROWER AND THE LENDER HEREBY CONSENT TO THE JURISDICTION OF ANY COURT LOCATED IN SARASOTA OR HILLSBOROUGH COUNTIES, FLORIDA, WAIVE ANY OBJECTION TO JURISDICTION AND VENUE OF ANY ACTION INSTITUTED AGAINST ANY OF THEM IN SUCH FORUM AS PROVIDED ABOVE AND AGREE NOT TO ASSERT ANY DEFENSE BASED ON LACK OF JURISDICTION OR VENUE IN**

SUCH FORUM.

11.3 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Note.

11.4 Notices. All notices and other communications given or made pursuant hereto shall be in writing and shall be deemed effectively given: (i) upon personal delivery to the party to be notified, (ii) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient; if not, then on the next business day, (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (iv) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt.

11.5 Expenses. If any action at law or in equity is necessary to enforce or interpret the terms of this Note, the prevailing party shall be entitled to reasonable attorneys' fees, costs and necessary disbursements in addition to any other relief to which such party may be entitled.

11.6 Severability. If one or more provisions of this Note are held to be unenforceable under applicable law, such provision shall be excluded from this Note and the balance of the Note shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

11.7 Further Assurance. From time to time, the Borrower shall execute and deliver to Lender such additional documents and shall provide such additional information to the Lender as Lender may reasonably require to carry out the terms of this Note, and any agreements executed in connection herewith.

11.8 Waiver of Jury Trial. TO THE EXTENT EACH MAY LEGALLY DO SO, EACH PARTY HERETO HEREBY EXPRESSLY WAIVES ANY RIGHT TO TRIAL BY JURY OF ANY CLAIM, DEMAND, ACTION, CAUSE OF ACTION OR PROCEEDING ARISING UNDER OR WITH RESPECT TO THIS NOTE, OR IN ANY WAY CONNECTED WITH, OR RELATED TO, OR INCIDENTAL TO, THE DEALING OF THE PARTIES HERETO WITH RESPECT TO THIS NOTE, OR THE TRANSACTIONS RELATED THERETO, IN EACH CASE WHETHER NOW EXISTING OR HEREAFTER ARISING, AND IRRESPECTIVE OF WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE. TO THE EXTENT EACH MAY LEGALLY DO SO, EACH PARTY HERETO HEREBY AGREES THAT ANY SUCH CLAIM, DEMAND, ACTION OR PROCEEDING SHALL BE DECIDED BY A COURT TRIAL WITHOUT A JURY AND THAT EITHER PARTY HERETO MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS AGREEMENT WITH ANY COURT AS WRITTEN EVIDENCE OF THE CONSENT OF ANY OTHER PARTY HERETO TO THE WAIVER OF ITS RIGHT TO TRIAL BY JURY.

11.9 Entire Agreement; Amendments and Waivers. This Note and the other documents delivered pursuant hereto constitute the full and entire understanding and agreement between the parties with regard to the subjects hereof and thereof. Any term of this Note may be amended and the observance of any term may be waived (either generally or in a particular instance and either retroactively or prospectively), with the written consent of the Borrower and the Lender. Any waiver or amendment effected in accordance with this Section shall be binding upon each future holder of all such securities, and the Borrower.

11.10 Florida Documentary Stamp Tax. The Borrower shall pay any and all Florida documentary stamp taxes that may be due with respect to this Note.

IN WITNESS WHEREOF, the parties have executed this Promissory Note and Loan Agreement as of the date first above written.

BORROWER:

MIRA PHARMACEUTICALS, INC.

By:*/s/ Erez Aminov*
Erez Aminov
Chief Executive Officer

LENDER:

/s/ George Cappy
George Cappy, as Trustee of the Bay Shore Trust

Exhibit 10.11

REGISTRATION RIGHTS AGREEMENT

REGISTRATION RIGHTS AGREEMENT ("Agreement"), dated as of April 28, 2023, by and among **MIRA PHARMACEUTICALS, INC.**, a Florida corporation (the "Company"), and **BAY SHORE TRUST** (the "Holder"). All capitalized terms used herein without definition shall have the meanings set forth in the Warrant Agreement (as defined below).

RECITALS

A. Pursuant to that certain Promissory Note and Loan Agreement dated as of April 28, 2023, among the Company and the Holder (the "Loan Agreement"), the Company has the right to borrow up to an aggregate of $5,000,000 from the Holder.

B. As an inducement to enter into the Loan Agreement and as a condition thereto, the Company has agreed to issue Warrant Shares to the Holder pursuant to the terms of the Common Stock Purchase Warrant dated April 28, 2028, among the Company and the Holder (the "Warrant Agreement").

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants and agreements set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound hereby, the parties hereto agree as follows:

1. Definitions. As used in this Section 1, the following terms shall have the following meanings:

(a) "Form S-3" means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC which permits inclusion or incorporation of substantial information by reference to other documents filed by the Company with the SEC.

(b) "Holder" means a holder of Registrable Securities as shown in records of the Company.

(c) "Registrable Securities" means (i) all Common Shares issuable to the Holder pursuant to the Warrant; and (ii) any interest in the Company or any successor issued or issuable with respect to the foregoing Shares by way of replacement, dividend, split, or in connection with any combination of Common Shares, recapitalization, or otherwise (including, without limitation, securities issued in connection with any conversion of the Company from a limited liability company to a corporation or other entity). As to any particular Registrable Securities, such securities shall cease to be Registrable Securities when (a) a Registration Statement with respect to the sale or transfer of such securities has been declared effective under the Securities Act, (b) such securities shall become saleable pursuant to Rule 144 (or any successor provision) under the Securities Act (and the holder thereof is able to sell, transfer or otherwise convey all of such Registrable Securities within any three-month period without violating any volume restriction thereunder), or (c) they shall have ceased to be outstanding.

(d) The terms "register," "registered," and "registration" refer to a registration effected by preparing and filing a registration statement or similar document in compliance with the Securities Act, and the declaration or ordering of effectiveness of such registration statement or document.

(e) "SEC" shall mean the Securities and Exchange Commission or any successor agency.

(f) "Securities Act" means the Securities Act of 1933, as amended.

(g) "Shares" means collectively the Common Shares and Warrant Shares.

2. Demand Registration.

(a) At any time after the first (1st) anniversary of closing of the Company's initial underwritten public offering of its common stock, if the Company shall receive at any time a written notice from the Holders of at least a majority of the then outstanding Registrable Securities ("Initiating Holders") requesting that the Company effect a registration under the Securities Act of all or a part of the Registrable Securities held by such Holders, then the Company shall:

(i) within ten (10) days of the receipt thereof, give written notice of such request to all Holders of Registrable Securities; and

(ii) exercise commercially reasonable efforts to effect as soon as practicable, and in any event within ninety (90) days of the receipt of such request, the registration under the Securities Act of all Registrable Securities that the Holders request to be registered, subject to the limitations of Section 2(b), by notice to the Company within thirty (30) days after the giving of the Company's notice under Section 2(a)(i).

(b) If the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to subsection 2(a) and the Company shall include such information in the written notice referred to in subsection 2(a). The underwriter will be selected by the Initiating Holders with the consent of the Company, which shall not be unreasonably withheld. In such event, the right of any Holder to include Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting (unless otherwise mutually agreed by a majority in interest of the other Initiating Holders and such Holder) to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall enter into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting. If the underwriters provide written notice to the Company that the total amount of Registrable Securities requested by members to be included in such offering exceeds the amount of securities to be sold that the underwriters determine in their sole discretion is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such Registrable Securities that the underwriters determine in their sole discretion will not materially and adversely affect such offering, and the Registrable Securities to be included shall be apportioned pro rata among the requesting Holders of Registrable Securities; provided that at least 50% of the Registrable Securities requested to be included in such registration must be included therein, and the anticipated aggregate offering price of such registration must exceed $15,000,000.

(c) The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to this Section 2 after the Company has effected two (2) registrations pursuant to this Section 2 and such registration statements have been declared effective and the sales of all Registrable Securities covered by such registration statements have closed.

(d) No demand right under this Section 2 shall be construed to limit any registration required under Section 3 or Section 4 herein.

3. "Piggy-Back" Registration.

(a) If (but without any obligation to do so) the Company proposes to register (including for this purpose a registration effected by the Company for members other than the Holders) any of its shares or other securities under the Securities Act, other than a registration relating solely to the sale of securities to participants in a stock plan on Form S-8, or a registration on Form S-4 relating solely to a transaction pursuant to the SEC's Rule 145 (or any successors to such forms), the Company shall, at such time, promptly give each Holder written notice of such registration. Upon the written request of any Holder given within twenty (20) days after the giving of such notice by the Company, the Company shall, subject to the provisions of Section 3(b), cause to be registered under the Securities Act all of the Registrable Securities that each such Holder has requested to be registered.

(b) In connection with any offering involving an underwriting of shares of the Company's capital stock, the Company shall not be required under this Section 3 to include any Holder's Registrable Securities in such underwriting unless such Holder accepts the terms of the underwriting as agreed upon between the Company and the underwriters selected by it (or by other persons entitled to select the underwriters). If the underwriters provide written notice to the Company that the total amount of securities, including Registrable Securities, requested by Members to be included in such offering exceeds the amount of securities to be sold (other than by the Company) that the underwriters determine in their sole discretion is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, that the underwriters determine in their sole discretion will not materially and adversely affect such offering, and the Registrable Securities to be included, if any, shall be apportioned pro rata (with each group) among first, the securities the Company proposed to have registered; second, the Registrable Securities requested to be included apportioned pro rata among the requesting Holders of Registrable Securities, provided that the holders of Registrable Securities shall be entitled to have registered at least 25% of the total securities to be registered in such offering (except the Company's initial public offering, for which the Company may exclude all Registrable Securities); and third, any members exercising any contractual or incidental registration rights subordinate to the rights of the Holders. For purposes of the preceding sentence concerning apportionment, for any selling Holder that is a partnership, corporation, or limited liability company, the partners, retired partners, members or stockholders of such Holder, or the estates and family members of any such partners and retired partners and any trusts for the benefit of any of the foregoing persons shall be deemed to be a single "selling Holder," and any pro-rata reduction with respect to such "selling Holder" shall be based upon the aggregate amount of Registrable Securities owned by all entities and individuals included in such "selling Holder," as defined in this sentence.

(c) No incidental right under this Section 3 shall be construed to limit any registration required under Section 2 or Section 4 herein.

4. Form S-3 Registration. In case the Company shall receive from any Holder or Holders a written request or requests that the Company effect a registration on Form S-3 and any related qualification or compliance with respect to all or a part of the Registrable Securities owned by such Holder or Holders, the Company agrees:

(a) to promptly give written notice of the proposed registration, and any related qualification or compliance, to all other Holders;

(b) as soon as practicable after receiving such a request, to use its best efforts effect such registration and all such qualifications and compliances as may be so requested and as would permit or facilitate the sale and distribution of all or such portion of such Holder's or Holders' Registrable Securities as are specified in such request, together with all or such portion of the Registrable Securities of any other Holder or Holders joining in such request as are specified in a written request given within fifteen (15) days after receipt of such written notice from the Company.

(c) Notwithstanding the foregoing provisions of this Section 4, the Company shall not be obligated to effect any such registration, qualification, or compliance pursuant to this Section 4: (i) if Form S-3 is not available for such offering by the Holders; (ii) if the Holders, together with the holders of any other securities of the Company entitled to inclusion in such registration, propose to sell Registrable Securities and such other securities (if any) at a reasonably anticipated aggregate price to the public of less than $5,000,000; or (iii) there has been within six months of the initial request for such registration a registration effected pursuant to this Section 4.

(d) Registrations effected pursuant to this Section 4 shall not be counted as demands for registration or registrations effected pursuant to Sections 2 or 3, respectively.

5. Deferral and Termination. Notwithstanding anything contained in this Agreement, the Company shall not be obligated to effect any registration pursuant to Sections 2 or 3 of this Agreement if the Company shall furnish to the Holder a certificate signed by the Chief Executive Officer of the Company stating that, in the good faith judgment of the Board of Directors of the Company, it would be seriously detrimental to the Company or its members for a registration statement to be filed in the near future, in which case the Company's obligation to use its reasonable efforts to complete a registration shall be deferred for a period or periods determined by the Company; provided that the Company may not defer any registration or registrations pursuant to this section for more than ninety (90) days in any period of twelve consecutive months.

6. Obligations of the Company.

(a) Whenever required under this Agreement to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible (but subject to providing counsel to the Holders with a reasonable opportunity to review and comment on all documents):

(i) Prepare and file with the SEC a registration statement that complies with the provisions of the Securities Act and the rules and regulations of the SEC thereunder with respect to such Registrable Securities within the time period specified by the applicable section under which the registration statement is being effected, thereafter use its best efforts to cause such registration statement to become effective, and, upon the request of the holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective until the distribution contemplated in the registration statement has been completed.

(ii) Prepare and file with the SEC such amendments and supplements to such registration statement and the prospectus used in connection with such registration statement as may be necessary to comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement in accordance with each Holder's intended method of disposition.

(iii) Furnish to the Holders such numbers of copies of a prospectus, including a preliminary prospectus, in conformity with the requirements of the Securities Act, and such other documents as they may reasonably request in order to facilitate the disposition of Registrable Securities owned by the Holders.

(iv) Use its best efforts to register and qualify the securities covered by such registration statement under such other securities or Blue Sky laws of such jurisdictions as shall be reasonably requested by the Holders and any managing underwriter; provided that the Company shall not be required in connection therewith or as a condition thereto to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act.

(v) In the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter of such offering. Each Holder participating in such underwriting shall also enter into and perform its obligations under such an agreement.

(vi) Use its best efforts to prevent the issuance of any stop order or other order suspending the effectiveness of a registration statement covering Registrable Securities and, if such an order is issued, to obtain the withdrawal thereof at the earliest possible time and to notify the Holders of the issuance of such order and the resolution thereof.

(vii) Promptly notify each Holder covered by such registration statement at any time when a prospectus relating thereto is required to be delivered under the Securities Act of the happening of any event as a result of which the prospectus included in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing, and promptly prepare and furnish to each Holder a reasonable number of copies of a supplement to or an amendment of such prospectus as may be necessary so that, as thereafter delivered to the purchasers of such shares, such prospectus shall not include an untrue statement of a material fact required to be stated therein or necessary to make the statements therein not misleading or incomplete in light of the circumstances then existing.

(viii) Cause all such Registrable Securities registered pursuant hereunder to be listed on each securities exchange on which similar securities issued by the Company are then listed.

(ix) Provide a transfer agent and registrar for all Registrable Securities registered pursuant hereunder and a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration.

(x) Furnish, at the request of any Holder requesting registration of Registrable Securities pursuant to Section 2, on the date that such Registrable Securities are delivered to the underwriters for sale in connection with a registration pursuant to Section 2, if such securities are being sold through underwriters, (i) an opinion dated as of such date of the counsel representing the Company for the purposes of such registration in the form given to the underwriters in such underwritten public offering, and (ii) a copy of the "cold comfort" letter dated as of such date from the independent certified public accountants of the Company to the underwriters in such underwritten public offering, addressed to the underwriters.

(b) The Company shall not grant any registration rights which conflict with, or otherwise limit, any of the rights granted hereunder.

7. Deferral and Termination. Notwithstanding anything contained in this Agreement, the Company shall not be obligated to effect any registration pursuant to Sections 3 or 4 of this Agreement if the Company shall furnish to the Holders a certificate signed by the Chief Executive Officer of the Company stating that, in the good faith judgment of the managers of the Company, it would be seriously detrimental to the Company or its members for a registration statement to be filed in the near future, in which case the Company's obligation to use its reasonable efforts to complete a registration shall be deferred for a period or periods determined by the Company; provided that the Company may not defer any registration or registrations pursuant to this section for more than ninety (90) days in any period of twelve consecutive months. The right of the Holders to exercise any registration rights pursuant to this Agreement shall terminate on the earlier of the third anniversary of the closing of an Initial Public Offering or at such time as all holders of Registrable Securities shall be permitted to sell such securities within a 90-day period under Rule 144 of the Securities Act of 1933, as amended.

8. Furnish Information. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Agreement with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as shall be required to effect the registration of such securities.

9. Expenses of Registrations. The Company shall pay all expenses other than underwriting discounts and commissions incurred in connection with registrations, filings, or qualifications pursuant to this Agreement, including, without limitation, (i) all registration, filing, and qualification fees (including, but not limited to, filing fees with the SEC, fees due to FINRA and fees due for listing on any stock exchange or for qualifying for quotation); (ii) printers and accounting fees; (iii) fees and disbursements of counsel for the Company; and (iv) the reasonable fees and disbursements of one counsel for the selling Holders. In no event shall the Company be responsible for any broker or similar commissions of any Holder or any legal fees or other costs of the Holders.

10. Indemnification. In the event any Registrable Securities are included in a registration statement under this Agreement:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each Holder, each Affiliate of a Holder, any underwriter (as defined in the Securities Act) for such Holder, and each person (if any) who controls such Holder or underwriter within the meaning of the Securities Act or the 1934 Act, against any losses, claims, damages, or liabilities (joint or several) to which they may become subject under the Securities Act, the 1934 Act, or other federal or state law (collectively, "Losses"), insofar as such Losses (or actions in respect thereof) arise out of or are based upon any of the following statements, omissions, or violations (collectively a "Violation"): (i) any untrue statement or alleged untrue statement of a material fact contained in such registration statement, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto, (ii) the omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by the Company of the Securities Act, the 1934 Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the 1934 Act, or any state securities law; and the Company will pay to each such Holder, Affiliate of such Holder, underwriter, or controlling person, as incurred, any legal or other expenses reasonably incurred by them in connection with investigating or defending against any such Losses; provided, however, that the indemnity agreement contained in this Section 9(a) shall not apply to amounts paid in settlement of any such Losses if such settlement is effected without the consent of the Company (which consent shall not be unreasonably withheld), nor shall the Company be liable in any such case for any Loss to the extent that it arises out of or is based upon a Violation that occurs in reliance upon and in conformity with written information furnished expressly for use in connection with such registration by any such Holder, underwriter, or controlling person.

(b) To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, each of its directors, each of its officers who has signed the registration statement, each person (if any) who controls the Company within the meaning of the Securities Act, any underwriter, any other Holder selling securities in such registration statement, and any controlling person of any such underwriter or other Holder, against any Losses to which any of the foregoing persons may become subject, under the Securities Act, the 1934 Act or other federal or state law, insofar as such Losses (or actions in respect thereto) arise out of or are based upon any Violation, in each case to the extent (and only to the extent) that such Violation occurs in reliance upon and in conformity with written information furnished by such Holder expressly for use in connection with such registration; and each such Holder will pay, as incurred, any legal or other expenses reasonably incurred by any person intended to be indemnified pursuant to this Section 9(b) in connection with investigating or defending against any such Losses; provided, however, that the indemnity agreement contained in this Section 9(b) shall not apply to amounts paid in settlement of any such Losses if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably withheld; and further provided that in no event shall any indemnity under this Section 9(b) exceed the net proceeds of securities sold under the registration statement received by such Holder.

(c) Promptly after receipt by an indemnified party under this Section 9 of notice of the commencement of any action (including any governmental action), such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 9, deliver to the indemnifying party a written notice of the commencement thereof, and the indemnifying party shall have the right to participate in, and, to the extent the indemnifying party so desires, jointly with any other indemnifying party similarly noticed, to assume the defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party shall have the right to participate in such defense at its own expense and, in addition (together with all other indemnified parties which may be represented without conflict by one counsel) shall have the right to retain one separate counsel and participate in the defense, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such proceeding. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of

any such action shall relieve such indemnifying party of any liability to the indemnified party under this Section 9 only to the extent materially prejudicial to its ability to defend such action, but the omission to deliver written notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 9.

(d) In the event that the indemnity provided in paragraph (a) or (b) of this Section 9 is unavailable or insufficient to hold harmless an indemnified party for any reason, the Company and the applicable Holder agree to contribute to the aggregate Losses to which the Company or the Holder may be subject in such proportion as is appropriate to reflect the relative fault of the Company and the Holder in connection with the statements or omissions which resulted in such Losses; provided, however, that in no case shall the Holder be responsible for any amount in excess of the net proceeds of securities sold by it under the registration statement. Relative fault shall be determined by reference to whether any alleged untrue statement or omission relates to information provided by the Company or by the Holder. The Company and the Holder agree that it would not be just and equitable if contribution were determined by pro rata allocation or any other method of allocation that does not take account of the equitable considerations referred to above. Notwithstanding the provisions of this paragraph (d), no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who is not guilty of such fraudulent misrepresentation. For purposes of this Section 9, each person who controls the Holder within the meaning of either the Securities Act or the 1934 Act and each Affiliate, employee, agent or representative of the Holder shall have the same rights to contribution as such Holder, and each person who controls the Company within the meaning of either the Securities Act or the 1934 Act and each officer, director, employee, agent or representative of the Company shall have the same rights to contribution as the Company, subject in each case to the applicable terms and conditions of this paragraph (d).

(e) The obligations of the Company and Holders under this Section 9 shall survive the completion of any offering of Registrable Securities covered by a registration statement under this Agreement.

11. Reports Under Securities Exchange Act of 1934. With a view to making available to the Holders the benefits of Rule 144 promulgated under the Securities Act and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or permit a Holder to sell securities of the Company pursuant to a registration on Form S-3, the Company agrees to use its best efforts:

(a) to make and keep public information available, as those terms are understood and defined in SEC Rule 144;

(b) to take such action, including the voluntary registration of its common stock under Section 12 of the 1934 Act, as is necessary to enable the Holders to utilize Form S-3 for the sale of their Registrable Securities, such action to be taken as soon as practicable after the end of the fiscal year in which the first registration statement filed by the Company for the offering of its securities to the general public is declared effective;

(c) to file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the 1934 Act; and

(d) to furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144, the Securities Act and the 1934 Act (at any time after it has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after it so qualifies), (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC which permits the selling of any such securities without registration or pursuant to such form.

12. Lock-Up Agreement. Each Holder hereby agrees that, during the period (not to exceed one hundred eighty (180) days) specified by the underwriters of common stock or other securities of the Company, following the effective date of a registration statement of the Company filed under the Securities Act (other than a registration relating solely to employee benefit plans on Form S-8 or a registration relating solely to an SEC Rule 145 transaction on Form S-4, or successors to such forms), such Holder shall not, to the extent requested by such underwriters, directly or indirectly sell, offer to sell, contract to sell (including, without limitation, any short sale), grant any option to purchase, or otherwise transfer or dispose of (other than to donees who agree to be similarly bound) any securities of the Company held by it at any time during such period except securities included in such registration; provided, however, that all officers, managers and directors of the Company and all holders of at least one percent (1%) of the Company's outstanding securities (on an as-converted basis) enter into similar agreements. In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to the Registrable Securities of a Holder (and the shares or securities of every other person subject to the foregoing restriction) until the end of such period.

13. Participation in Underwritten Registrations.

(a) Underwriting Arrangements. No Person may participate in any Piggyback Registration Statement hereunder which is underwritten unless such Person (a) agrees to sell such Person's securities on the basis provided in any underwriting arrangements approved by the Person or Persons entitled hereunder to approve such arrangements and (b) completes and executes all questionnaires, powers of attorney, indemnities, underwriting agreements and other documents required under such underwriting arrangements.

(b) Agreement To Provide Information. Each holder of Registrable Securities seeking registration of its Registrable Securities pursuant to the terms of this Agreement will furnish promptly to the Company and any managing underwriter such information regarding such holder and the proposed distribution of the Registrable Securities by such holder as they may request and as may be required in connection with any registration, qualification, or compliance referred to in this Agreement. In the event that a holder of Registrable Securities fails or refuses to provide such information for any reason within a reasonable time after a request therefor by the Company or the managing underwriter, if any, the Company will be relieved of obligations to include such Registrable Securities in such registration.

14. General Provisions.

(a) No Inconsistent Agreements. The Company will not on or after the date hereof, without the consent of the holders of not less eighty percent (80%) of the voting power of the Common Shares, grant to any Person rights as to registration of securities that are superior to the rights granted hereunder or that otherwise materially conflict with the provisions hereof.

(b) Remedies. All remedies under this Agreement, or by law or otherwise afforded to any party hereto, shall be cumulative and not alternative. Any Person having rights under any provision of this Agreement will be entitled to enforce such rights specifically to recover damages caused by reason of any breach of any provision of this Agreement and to exercise all other rights granted by law. The parties hereto agree and acknowledge that money damages may not be an adequate remedy for any breach of the provisions of this Agreement and that any party may in its sole discretion apply to any court of law or equity of competent jurisdiction (without posting any bond or other security) for specific performance and for other injunctive relief in order to enforce or prevent violation of the provisions of this Agreement.

(c) Term. Except as specifically otherwise provided herein, the provisions of this Agreement shall terminate upon the earliest to occur of the following: (i) no Registrable Securities remain outstanding; (ii) all of the Registrable Securities may be transferred, sold, or otherwise disposed of in accordance with the provisions of Rule 144(e) or 144(k) promulgated under the Securities Act (and the holders thereof are able to sell, transfer or otherwise convey all of such Registrable Securities within any three-month period without violating any volume restriction thereunder); or (iii) the third anniversary of any Initial Public Offering; provided, however, that the indemnification

provisions in Section 9 shall survive the termination of this Agreement.

(d) Amendments and Waivers. Except as otherwise specifically provided herein, this Agreement may be amended or waived only upon the prior written consent of the Company and the holders of at least two-thirds of the then outstanding Registrable Securities.

(e) Assignment. This Agreement shall be binding upon and inure to the benefit and be enforceable by the parties hereto, and their respective successors and permitted assigns, whether so expressed or not. In addition, whether or not any express assignment has been made, the provisions of this Agreement which are for the benefit of holders of Registrable Securities also are for the benefit of, and enforceable by, any subsequent holder of such Registrable Securities so long as, and to the extent that, such securities continue to be Registrable Securities and have not been sold, assigned or otherwise transferred in violation of the Operating Agreement or applicable laws or regulations.

(f) Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be prohibited by or invalid under applicable law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Agreement.

(g) Counterparts. This Agreement may be executed in multiple counterparts, any one of which need not contain the signatures of more than one party, but all such counterparts taken together will constitute one and the same Agreement.

(h) Descriptive Headings. The descriptive headings of this Agreement are inserted for convenience only and do not constitute a part of this Agreement.

(i) Governing Law. All questions concerning the construction, validity and interpretation of this Agreement will be governed by and construed in accordance with the domestic laws of the State of Florida, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Florida or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Florida.

(j) Entire Agreement. This Agreement is intended by the parties as a final expression of their agreement and intended to be a complete and exclusive statement of the agreement and understanding of the parties hereto with respect of the subject matter contained herein. This agreement supersedes all prior agreements and understandings between the parties with respect to such subject matter.

(k) Notices. All notices, demands, or other communications to be given or delivered under or by reason of the provisions of this Agreement shall be in writing and shall be delivered in accordance with the notice provision of the Warrant Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

COMPANY:

MIRA PHARMACEUTICALS, INC.

By: */s/ Erez Aminov*
Name: Erez Aminov
Its: Chief Executive Officer

HOLDER:

BAY SHORE TRUST

By: */s/ George Cappy*
Name: George Cappy
Its: Trustee

MIRA PHARMACEUTICALS, INC.

CODE OF ETHICS AND CONDUCT

In accordance with the requirements of the Securities and Exchange Commission (the "SEC") and the Initial Listing Standards of the Nasdaq Stock Exchange ("Nasdaq"), the Board of Directors (the "Board") of MIRA Pharmaceuticals, Inc. (the "Company") has adopted this Code of Ethics and Conduct (the "Code") to encourage:

- Honest and ethical conduct, including fair dealing and the ethical handling of actual or apparent conflicts of interest;
- Full, fair, accurate, timely and understandable disclosure;
- Compliance with applicable governmental laws, rules and regulations;
- Prompt internal reporting of any violations of law or the Code;
- Accountability for adherence to the Code, including fair process by which to determine violations;
- Consistent enforcement of the Code, including clear and objective standards for compliance;
- Protection for persons reporting any such questionable behavior;
- The protection of the Company's legitimate business interests, including its assets and corporate opportunities; and
- Confidentiality of information entrusted to directors, officers and employees by the Company and its customers.

All directors, officers and employees of the Company (each a "Covered Party" and, collectively, the "Covered Parties") are expected to be familiar with the Code and to adhere to the principles and procedures set forth below.

This Code is not intended to be a comprehensive rulebook and cannot address every situation that you may face. If you feel uncomfortable about a situation or have any doubts about whether it is consistent with the Company's ethical standards, seek help. We encourage you to contact your supervisor for help first. If your supervisor cannot answer your question or if you do not feel comfortable contacting your supervisor, contact the Company's Chief Financial Officer or another senior executive of the Company.

I. Conflicts of Interest

A conflict of interest occurs when the private interests of a Covered Party interfere, or appear to interfere, with the interests of the Company as a whole.

For example, a conflict of interest can arise when a Covered Party takes actions or has personal interests that may make it difficult to perform his or her Company duties objectively and effectively. A conflict of interest may also arise when a Covered Party, or a member of his or her immediate family, receives improper personal benefits as a result of his or her position at the Company.

Conflicts of interest can also occur indirectly. For example, a conflict of interest may arise when a Covered Party is also an executive officer, a major shareholder or has a material interest in a company or organization doing business with the Company.

Each Covered Party has an obligation to conduct the Company's business in an honest and ethical manner, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships. Any situation that involves, or may reasonably be expected to involve, a conflict of interest with the Company, should be disclosed promptly to the Company's Chief Executive Officer, Chief Financial Officer or the Board.

This Code does not attempt to describe all possible conflicts of interest that could develop. Other common conflicts from which Covered Parties must refrain are set out below:

- Covered Parties may not engage in any conduct or activities that are inconsistent with the Company's best interests or that disrupt or impair the Company's relationship with any person or entity with which the Company has or proposes to enter into a business or contractual relationship.
- Covered Parties may not accept compensation, in any form, for services performed for the Company from any source other than the Company.
- No Covered Party may take up any management or other employment position with, or have any material interest in, any firm or company that is in direct or indirect competition with the Company.

II. Disclosures

The information in the Company's public communications, including in all reports and documents filed with or submitted to the SEC, must be full, fair, accurate, timely and understandable.

To ensure the Company meets this standard, all Covered Parties (to the extent they are involved in the Company's disclosure process) are required to maintain familiarity with the disclosure requirements, processes and procedures applicable to the Company commensurate with their duties. Covered Parties are prohibited from knowingly misrepresenting, omitting or causing others to misrepresent or omit, material facts about the Company to others, including the Company's independent auditors, governmental regulators and self-regulatory organizations.

III. Compliance with Laws, Rules and Regulations

The Company is obligated to comply with all applicable laws, rules and regulations. It is the personal responsibility of each Covered Party to adhere to the standards and restrictions imposed by these laws, rules and regulations in the performance of his or her duties for the Company.

The Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer or Controller (or persons performing similar functions) of the Company (together, the "Senior Financial Officers") are also required to promote compliance by all employees with the Code and to abide by Company standards, policies and procedures.

IV. Insider Trading

Trading on inside information is a violation of federal securities law. Covered Parties in possession of material non-public information about the Company or companies with whom we do business must abstain from trading or advising others to trade in the respective company's securities from the time that they obtain such inside information until adequate public disclosure of the information. Material information is information of such importance that it can be expected to affect the judgment of investors as to whether or not to buy, sell, or hold the securities in question. To use non-public information for personal financial benefit or to "tip" others, including family members, who might make an investment decision based on this information is not only unethical but also illegal. Covered Parties who trade stock based on insider information can be personally liable for damages totaling up to three times the profit made or loss avoided by the respective Covered Party. You are required to

read carefully and observe our Insider Trading Policy, as amended from time to time. Please contact the Company's Chief Financial Officer for a copy of the Insider Trading Policy or with any questions you may have about insider trading laws.

V. Reporting, Accountability and Enforcement

The Company promotes ethical behavior at all times and encourages Covered Parties to talk to supervisors, managers and other appropriate personnel, including the officers, outside counsel for the Company and the Board or the relevant committee thereof, when in doubt about the best course of action in a particular situation. All Covered Persons have a duty to report suspected violations of laws, rules, regulations or the Code. If you know of or suspect such a violation, immediately report the conduct to your supervisor or other appropriate Company personnel, Board or relevant committee thereof. All reports of known or suspected violations of the law or this Code will be handled sensitively and with discretion. The Company and any others assisting in the investigation will protect your confidentiality to the extent possible, consistent with applicable laws, regulations and the Company's need to investigate your concern.

The Audit Committee of the Board or other appropriate officer or body shall investigate and determine, or shall designate appropriate persons to investigate and determine, the legitimacy of such reports. The Audit Committee or other appropriate officer or body will then determine the appropriate disciplinary action. Such disciplinary action includes, but is not limited to, reprimand, termination with cause, and possible civil and criminal prosecution.

To encourage reporting of any and all violations, the Company will not tolerate retaliation for reports and assisting in investigating reports made in good faith. Retaliation or retribution against any Covered Party for a report or assistance in investigating a report made in good faith of any suspected violation of laws, rules, regulations or this Code is cause for appropriate disciplinary action.

VI. Corporate Opportunities

All Covered Parties owe a duty to the Company to advance the legitimate interests of the Company when the opportunity to do so arises. Covered Parties are prohibited from directly or indirectly (a) taking personally for themselves opportunities that are discovered through the use of Company property, information or positions; (b) using Company property, information or positions for personal gain; or (c) competing with the Company for business opportunities; provided, however, if the Company's disinterested directors of the Board determine that the Company will not pursue an opportunity that relates to the Company's business, a Covered Party may do so, after notifying the disinterested directors of the Board of intended actions in order to avoid any appearance of conflict of interest.

VII. Confidentiality

In carrying out the Company's business, Covered Parties may learn confidential or proprietary information about the Company, its customers, distributors, suppliers or joint venture partners. Confidential or proprietary information includes all non-public information relating to the Company, or other companies, that would be harmful to the relevant company or useful or helpful to competitors if disclosed.

Covered Parties must maintain the confidentiality of all information so entrusted to them, except when disclosure is authorized or legally mandated. Covered Parties must safeguard confidential information by keeping it secure, limiting access to those who have a need to know in order to do their job, and avoiding discussion of confidential information in public areas such as planes, elevators, and restaurants and on mobile phones. This prohibition includes, but is not limited to, inquiries made by the press, analysts, investors or others. Covered parties also may not use such information for personal gain. These confidentiality obligations continue even after employment with the Company ends.

VIII. Fair Dealing

Each Covered Party should endeavor to deal fairly with fellow employees and with the Company's customers, service providers, suppliers and competitors. No Covered Party should take unfair advantage of anyone through manipulation, concealment, abuse of privileged information, misrepresentation of material facts, or any unfair dealing practice.

IX. Protection and Proper Use of Company Assets

All Covered Parties should protect the Company's assets and ensure their efficient use. Theft, carelessness and waste have a direct impact on the Company's profitability. All Company assets should be used only for legitimate business purposes. The obligation of employees to protect the Company's assets includes its proprietary information. Proprietary information includes intellectual property such as trade secrets, patents, trademarks and copyrights, as well as business, marketing and service plans, engineering and manufacturing ideas, designs, databases, records, salary information and any unpublished financial data and reports.

X. Waivers

Any waiver of this Code for our directors, executive officers or other principal financial officers may be made only by our Board or a duly authorized committee thereof and will be disclosed to the public as required by law or the rules of Nasdaq, when applicable. Waivers of this Code for other employees may be made only by our Chief Executive Officer or Chief Financial Officer and will be reported to our Audit Committee.

XI. Accuracy of Business Records

All financial books, records and accounts must accurately reflect transactions and events, and conform both to generally accepted accounting principles (GAAP) and to the Company's system of internal controls. No entry may be made that intentionally hides or disguises the true nature of any transaction. Covered Parties should therefore attempt to be as clear, concise, truthful and accurate as possible when recording any information.

XII. Gifts and Favors

The purpose of business gifts and entertainment in a commercial setting is to create goodwill and sound working relationships, not to gain unfair advantage with customers. Covered Parties must act in a fair and impartial manner in all business dealings. Gifts and entertainment should further the business interests of the Company and not be construed as potentially influencing business judgment or creating an obligation.

Gifts must not be lavish or in excess of the generally accepted business practices of one's country and industry. Gifts of cash or cash equivalents are never permitted. Requesting or soliciting personal gifts, favors, entertainment or services is unacceptable. Covered Parties should contact the officers, outside counsel for the Company and the Board or the relevant committee thereof to discuss if they are not certain that a gift is appropriate.

The Foreign Corrupt Practices Act prohibits giving anything of value, directly or indirectly, to officials of foreign governments or foreign political candidates in order to obtain or retain business. It is strictly prohibited to make illegal payments to government officials of any country. In addition, the promise, offer or delivery to an official

or employee of the U.S. government of a gift, favor or other gratuity in violation of these rules would not only violate Company policy but could also be a criminal offense. State and local governments, as well as foreign governments, may have similar rules.

XIII. Antitrust Laws and Competition

The purpose of antitrust laws is to preserve fair and open competition and a free market economy, which are goals that the Company fully supports. Covered Parties must not directly or indirectly enter into any formal or informal agreement with competitors that fixes or controls prices, divides or allocates markets, limits the production or sale of products, boycotts certain suppliers or customers, eliminates competition or otherwise unreasonably restrains trade.

XIV. Political Contributions

Covered Parties may participate in the political process as individuals on their own time. However, Covered Parties must make every effort to ensure that they do not create the impression that they speak or act on behalf of the Company with respect to political matters. Company contributions to any political candidate or party or to any other organization that might use the contributions for a political candidate or party are prohibited. A Covered Party may not receive any reimbursement from corporate funds for a personal political contribution.

XV. Discrimination and Harassment

The Company is an equal opportunity employer and will not tolerate illegal discrimination or harassment of any kind. The Company is committed to providing a workplace free of discrimination and harassment based on race, color, religion, age, gender, national origin, ancestry, sexual orientation, disability, veteran status, or any other basis prohibited by applicable law. Examples include derogatory comments based on a person's protected class and sexual harassment and unwelcome sexual advances. Similarly, offensive or hostile working conditions created by such harassment or discrimination will not be tolerated.

XVI. Environmental Protection

The Company is committed to managing and operating its assets in a manner that is protective of human health and safety and the environment. It is our policy to comply with both the letter and the spirit of the applicable health, safety and environmental laws and regulations and to attempt to develop a cooperative attitude with government inspection and enforcement officials. Covered Parties are encouraged to report conditions that they perceive to be unsafe, unhealthy or hazardous to the environment.

XVII. Personal Conduct and Social Media Policy

Covered Parties should take care when presenting themselves in public settings, as well as online and in web-based forums or networking sites. Each Covered Party is encouraged to conduct himself or herself in a responsible, respectful, and honest manner at all times. The Company understands that Covered Parties may wish to create and maintain a personal presence online using various forms of social media. However, in so doing Covered Parties should include a disclaimer that the views expressed therein do not necessarily reflect the views of the Company. Covered Parties should be aware that that even after a posting is deleted, certain technology may still make that content available to readers.

Covered Parties are prohibited from using or disclosing confidential, proprietary, sensitive or trade secret information of the Company, its partners, vendors, consultants or other third parties with which the Company does business. Harassment of other directors, officers or employees will also not be tolerated. A Covered Party may not provide any content to Company social media sites that may be construed as political lobbying or solicitation of contributions, or use the sites to link to any sites sponsored by or endorsing political candidates or parties, or to discuss political campaigns, political issues or positions on any legislation or law.

XVIII. No Rights Created

This Code is a statement of certain fundamental principles, policies and procedures that govern the Company's Covered Parties in the conduct of the Company's business. It is not intended to and does not create any rights in any employee, customer, client, visitor, supplier, competitor, shareholder or any other person or entity. It is the Company's belief that the policy is robust and covers most conceivable situations.

Approved by the MIRA Pharmaceuticals, Inc. Board of Directors on June 27, 2023.

Exhibit 21.1

List of Subsidiaries of MIRA Pharmaceuticals, Inc.

Legal Name	Jurisdiction
None	Not applicable

Exhibit 23.1

Consent of Independent Accountants

We hereby consent to the incorporation by reference in this Registration Statement and Prospectus of MIRA Pharmaceuticals, Inc., of our report dated April 4, 2023, with respect to our audits of the financial statements of MIRA Pharmaceuticals, Inc. as of December 31, 2022 and 2021 and for each of the years in the two-year period ended December 31, 2022. We also consent to the reference to us under the heading "Experts" in such Registration Statement and Prospectus.

/s/ Cherry Bekaert LLP

Tampa, Florida
June 29, 2023

Exhibit 99.1

MIRA PHARMACEUTICALS, INC.

AUDIT COMMITTEE CHARTER

The Board of Directors (the "Board") of MIRA Pharmaceuticals, Inc. (the "Company") has established a standing Audit Committee (the "Committee") pursuant to Section 607.0825 of the Florida Business Corporation Act ("FBCA") and for the purposes described in this charter of the Committee (the "Committee Charter").

I. Purpose of the Committee

The purpose of the Committee is to assist the Board in its oversight and monitoring of:

- the integrity of the Company's financial statements and other financial information provided by the Company to its shareholders;
- the Company's system of internal control over financing reporting;
- the Company's compliance with legal and regulatory requirements;
- the independent registered public accountants (the "Auditors"), including their independence and qualifications; and
- the performance of the Company's internal audit function and the Auditors.

The Committee shall also prepare the audit committee report for inclusion in the Company's annual proxy statement as required by the applicable rules and regulations of the United States Securities and Exchange Commission (the "SEC"). In the course of fulfilling its purpose, the Committee may maintain free and open communication between the Board, the Company's Auditors and the financial management of the Company. In addition, the Committee shall promote with the Company's management, an environment of high integrity and control consciousness.

II. Organization

Members of the Committee shall be appointed by the Board. The Committee shall consist of at least three members of the Board, each of whom shall be independent in accordance with the requirements of Rule 10A-3 of the Securities Exchange Act of 1934 and the rules of the Nasdaq Stock Exchange, and otherwise meet the qualifications set forth herein.

All members of the Committee shall have a basic understanding of finance and accounting and be able to read and understand fundamental financial statements, including the Company's balance sheet, income statement and cash flow statement. At least one member of the Committee shall have accounting or related financial management expertise or be considered an "audit committee financial expert" as defined in Item 407 of Regulation S-K.

The chair of the Committee (the "Chair") shall be designated by the full Board or, if it does not do so, the Committee members shall elect a Chair by vote of a majority of the full Committee. No member of the Committee may serve simultaneously on the audit committee of more than two other public companies. The members of the Committee shall serve until their successors are appointed and qualified, or until such member's earlier resignation or removal. The Board may remove any member from the Committee at any time with or without cause.

The Committee may form and delegate authority to subcommittees when appropriate, as permitted by the charter and bylaws of the Company and consistent with the FBCA. The Committee shall have the authority to engage independent counsel and other advisors, as the Committee deems necessary to carry out its duties. The Committee shall determine and receive appropriate funding from the Company for payment of compensation to any independent counsel or other advisors engaged by the Committee and ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties.

III. Structure and Meetings

The Chair will preside at each meeting, and in consultation with the other members of the Committee, will set the frequency and length of each meeting and the agenda of items to be addressed at each meeting; provided, that the Committee shall meet no less frequently than quarterly. If a Chair is not designated or present, the members of the Committee may designate a chair of the meeting by majority vote of the Committee membership. To the extent beneficial to the Committee, the Chair, or in such person's absence the chair of the meeting, may circulate an agenda for each meeting in advance of the meeting.

The Committee should meet privately in executive session at least annually with management, the Auditors, and as a committee to discuss any matters that the Committee or any of these groups believe should be discussed. In addition, the Committee, or at least its Chair, should communicate with management and the Auditors quarterly to review the Company's financial statements and significant findings based upon the Auditors' limited review procedures.

A majority of the members of the Committee shall constitute a quorum for the transaction of business. The Committee may act only upon the approval of a majority of its members. The action of the Committee at a meeting at which a quorum is present shall be the act of the Committee. The Committee may act in writing by the unanimous consent of its members.

IV. Duties and Responsibilities

In carrying out its purpose, the Committee shall maintain the flexibility to react to changing conditions and may adopt such policies and procedures as it shall deem appropriate to fulfill its oversight and monitoring responsibilities. The Committee shall also undertake such other tasks as may be delegated to it, from time-to-time, by the Board. Specific duties and responsibilities of the Committee are as follows:

Financial Statements

1. Review and discuss with management and the Auditors:

- the Company's annual audited financial statements and quarterly unaudited financial statements, including Management's Discussion and Analysis of Financial Condition and Results of Operations. This review must be prior to filing of the Company's Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, respectively with the SEC;

- the Auditors' audit of the annual financial statements and their report thereon;
- the accompanying management letter and any reports with respect to interim periods;
- any material changes to the Company's accounting principles and practices used in preparing the financial statements to be filed with the SEC;
- any significant changes required in the Auditors' audit plan;
- any difficulties or disputes with management encountered during the course of the audit; and
- other matters related to the conduct of the audit that are to be communicated to the Committee under the auditing standards of the Public Company Accounting Oversight Board (the "PCAOB").

2. Review and discuss the Company's earnings press releases, including the use of non-GAAP financial measures, prior to public disclosure.

3. Discuss with the Auditors the financial statements and audit findings, including any significant adjustments, management judgements and accounting estimates, significant new accounting policies and disagreements with management and any other matters required to be discussed by the rules and regulations of the PCAOB and SEC.

4. Review disclosures made by the Chief Executive Officer ("CEO") and the Chief Financial Officer ("CFO") regarding significant deficiencies or material weaknesses in the design or operation of the Company's internal controls over financial reporting that are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information and any fraud that involves management or other employees that have a significant role in the Company's internal control over financial reporting. The Committee shall also review disclosures made by the CEO and CFO regarding the effectiveness of the Company's disclosure controls and procedures.

Independent Auditors

5. Have the sole authority and responsibility to appoint, determine the compensation of, retain, and oversee the work of the Auditors (including resolution of disagreements between management and the Auditors regarding financial reporting) for the purpose of preparing or issuing an audit report or related work. The Committee shall also have the sole authority to propose and approve the discharge of the Auditors when circumstances warrant. The Auditors shall report directly to the Committee.

6. Pre-approve all audit and permissible non-audit services to be provided to the Company by the Auditors. The Committee shall have the sole authority to approve the hiring and firing of the Auditors and all fees and terms of audit and non-audit engagements with the Auditors, in each case as may be permissible and compatible with the Auditors independence.

7. Review annually the independence and performance of the Auditors.

8. Review and discuss with the Auditors all significant relationships that could impair the Auditors' independence including, but not limited to, review of the Auditors' formal written statement delineating all relationships between the Auditors and the Company.

9. Review the Auditors' audit plan, and discuss scope, staffing, locations, reliance upon management, and internal audit and general audit approach.

10. Review with the Auditors and management the opinion to be issued by the Auditors on the financial statements and the disclosures to be included in the Company's annual report on Form 10-K.

11. Review with the Auditors and management the quarterly financial statements to be included in the Company's quarterly report on Form 10-Q.

12. Prior to releasing the year-end earnings, discuss the results of the audit with the Auditors.

13. Consider the Auditors' judgments about the quality and appropriateness of the Company's accounting principles as applied in its financial reporting and discuss with the Auditors the scope of their annual audit and key risk areas.

14. Obtain and review, at least annually, a report by the Auditors describing the Auditors' internal quality-control procedures and any material issues raised by the most recent internal quality-control review, peer review, PCAOB review, or any other investigation by governmental or professional authorities.

15. Review and approve the Company's hiring of employees of the Auditors who were engaged on the Company's account.

Internal Audit

16. Review the appointment and replacement of the senior internal auditing employee.

17. Appoint, determine the compensation, evaluate the scope, and oversee the work of any consultants or accountants retained for internal auditing purposes.

18. Review the significant reports to management prepared by the internal auditing department (including reports of any consultants or accountants retained for internal auditing purposes) and management's responses.

19. Review the audit plan, scope of work, progress, and results of the internal auditing department.

20. Discuss with the Auditors and management the internal audit department responsibilities, budget and staffing and any recommended changes in the planned scope of the internal audit.

Information Technology and Cybersecurity

21. Provide oversight of policies, procedures, plans, and execution intended to provide security, confidentiality, availability, and integrity of the Company's information.

22. Oversee the quality and effectiveness of the Company's policies and procedures with respect to its information technology systems, including privacy, network security and data security.

23. Review and provide oversight on the policies and procedures of the Company in preparation for responding to any material incidents.

24. Periodically review with management the Company's disaster recovery capabilities.

25. Oversee the Company's management of risks related to its information technology systems and processes, including privacy, network security and data security, and any internal audits of such systems and processes.

26. Periodically review risk assessments from management with respect to cybersecurity, including the adequacy and effectiveness of the Company's internal controls regarding cybersecurity, emerging cybersecurity developments and trends, and the Company's strategy to mitigate cybersecurity risks.

27. Oversee the Company's information technology senior management team relating to budgetary priorities based, in part, on assessing risk associated with various perceived threats.

28. Review the Company's information technology strategy or programs relating to new technologies, applications, and systems.

29. Perform such other functions as may be necessary or appropriate in the efficient and lawful discharge of the foregoing.

Complaints

30. Establish and monitor procedures for the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls or auditing matters, including procedures for the confidential, anonymous submission by employees of the Company of concerns regarding questionable accounting or auditing matters. The Committee shall review and take such action, as they deem necessary or appropriate, with respect to complaints or concerns received from employees or others on accounting, internal accounting controls or auditing matters.

Reporting Matters

31. Annually prepare a report to shareholders of the Company as required by the SEC. The report should be included in the Company's annual proxy statement on Schedule 14A.

32. Maintain minutes of meetings, ensuring that the minutes document all significant issues that have been discussed during the meetings with the Auditors, management and legal counsel, and all decisions made by the audit committee outside of their formal meetings, such as approval of the Auditors' fees or approval of non-audit services.

Reports by Attorneys

33. Review, make appropriate investigations and responses, and take such other actions, as the Committee deems necessary or appropriate and in compliance with applicable laws and regulations, with respect to any reports from any attorneys of evidence of a material violation of securities law or breach of fiduciary duty or similar violation by the Company or any of its agents. Additionally, the Committee shall review periodically with the Company's outside securities counsel those legal and regulatory matters that may have a material impact on the Company's financial statements or otherwise materially affect compliance policies and programs in the Committee's areas of responsibility.

Related Party Transactions

34. Approve, if the duty is not delegated to a comparable body of the Board, all material related party transactions, which refers to transactions required to be disclosed under Item 404 of Regulation S-K of the Exchange Act.

General Duties

35. Work with the Nominating & Governance Committee to perform an annual self-assessment of the performance of the Committee.

36. Review this Charter at least annually and thereafter report any recommended modifications thereto to the Board for consideration and, if appropriate, adoption thereof.

37. Review with the Company's CEO on a periodic basis the status of any material pending orders, significant changes in current projects, and any other matters that could significantly affect the Company's financial status.

38. Perform any other activities consistent with this Committee Charter, the Company's by-laws, and governing law, as the Committee or the Board deems necessary or appropriate.

V. Disclosure of Committee Charter

This Committee Charter will be made available on the Company's website.

Approved by the MIRA Pharmaceuticals, Inc. Board of Directors on [_____], 2023.

Exhibit 99.2

MIRA PHARMACEUTICALS, INC.

NOMINATING & GOVERNANCE COMMITTEE CHARTER

The Board of Directors (the "Board") of MIRA Pharmaceuticals, Inc. (the "Company") has established a standing Nominating & Governance Committee (the "Committee") pursuant to Section 607.0825 of the Florida Business Corporation Act ("FBCA") and for the purposes described in this charter of the Committee (the "Committee Charter").

I. Purpose

The primary objectives of the Committee are to assist the Board by: (i) identifying and screening individuals qualified to become Board members and recommending to the Board a group of director nominees for the next annual meeting of the Company's stockholders; (ii) ensuring that the Audit, Compensation, and Nominating & Governance Committees of the Board shall have the benefit of qualified and experienced "independent" directors; and (iii) overseeing and making recommendations concerning the Company's corporate governance.

II. Organization

The Committee shall consist of at least three members of the Board each of whom shall be independent in accordance with the requirements of the rules of the Nasdaq Stock Exchange, and otherwise meet the qualifications set forth herein. Prior to appointing any member of the Committee, the Board shall affirmatively determine that such individual is independent under the rules of the Nasdaq Stock Exchange and, in making such determination, consider all factors specifically relevant to determining whether a director has a relationship to the Company that is material to that director's ability to be independent from management in connection with the duties of a Committee member, including, but not limited to: (A) the source of compensation of such director, including any consulting, advisory, or other compensatory fee paid by the Company to such director; and (B) whether such director is affiliated with the Company, a subsidiary of the Company, or an affiliate of a subsidiary of the Company. The Board shall appoint the members of the Committee, who shall serve until their successors are appointed and qualified, or until such member's earlier resignation or removal.

Notwithstanding the above, one director of the Company who is not independent in accordance with the requirements of the rules of the Nasdaq Stock Exchange, but is not a current officer or employee or an immediate family member of such person, may be appointed to the Committee, if the Board, under exceptional and limited circumstances, determines that membership on the Committee by the individual is required by the best interests of the Company and its stockholders, and the Board discloses, in the next annual meeting proxy statement (or in its next annual report filed with the SEC on Form 10-K if the Company does not file an annual proxy statement) subsequent to such determination, the nature of the relationship and the reasons for that determination. A director appointed to the Committee pursuant to this exception may not serve for a period in excess of two years.

The chair of the Committee (the "Chair") may be designated by the full Board or, if it does not do so, the Committee members shall elect a Chair by vote of a majority of the full Committee. The Board may remove any member from the Committee at any time with or without cause.

The Committee may form and delegate authority to subcommittees when appropriate, as permitted by the charter and bylaws of the Company and consistent with the FBCA. The Committee shall have the authority to engage independent counsel and other advisors as the Committee deems necessary to carry out its duties. The Committee shall determine and receive appropriate funding from the Company for payment of compensation to any independent counsel or other advisors engaged by the Committee and ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties.

III. Structure and Meetings

The Chair will preside at each meeting, and in consultation with the other members of the Committee, will set the frequency and length of each meeting and the agenda of items to be addressed at each meeting; provided, that the Committee shall meet no less frequently than annually. If a Chair is not designated or present, the members of the Committee may designate a chair of the meeting by majority vote of the Committee membership. To the extent beneficial to the Committee, the Chair, or in such person's absence the chair of the meeting, may circulate an agenda for each meeting in advance of the meeting.

The Committee may invite to its meetings any director, member of management of the Company, and such other persons as it deems appropriate in order to carry out its responsibilities; provided, however, that the Chairman of the Board and Chief Executive Officer of the Company (to the extent the latter is a director) shall each be entitled ex officio to attend, but not vote at, meetings of the Committee unless the Committee shall determine that their attendance is not appropriate.

IV. Duties and Responsibilities

The Committee shall: (i) make recommendation to the full Board on the size and composition of the Board; (ii) review possible candidates for Board membership, including candidates validly nominated by stockholders, consistent with the Board's criteria for selecting new directors; (iii) annually recommend a slate of nominees to the Board with respect to election at the annual meeting of the Company's stockholders; (iv) oversee evaluation of the Board and its directors, which may include developing and recommending an annual self-assessment process; (v) recommend to the Board director nominees to fill vacancies on the Board as necessary; (vi) develop and recommend to the Board a set of corporate governance principles applicable to the Company; (vii) review and make recommendations to the Board regarding corporate governance matters including, but not limited to, amendments to the charter and by-laws, as necessary and appropriate; (viii) develop procedures for the Committee's consideration of director candidates nominated by the stockholders of the Company and administer such process; (ix) review stockholder proposals and recommend proposed responses by the Company including, but not limited to, responses for inclusion in the Company proxy statement; (x) oversee the Company's management of operational risk and contingency planning for business continuity in areas other than information technology and cybersecurity; and (xi) develop and implement short- and long-term strategies to enhance and support each of the foregoing. The Committee may also make recommendations to the Board with respect to committee member qualifications, committee member appointments and removals, committee structure and operations, charters for other committees of the Company, and committee reporting to the Board. The Committee will annually review and reassess the adequacy of this Committee Charter and recommend any proposed changes to the Board for approval. The Committee shall regularly review and monitor compliance with the Company's corporate governance guidelines, Conduct of Business Policy, Code of Ethics for Directors, the Principal Executive Officer, and Senior Financial Officers, and policies concerning trading in the Company's securities, and make recommendations concerning such policies and guidelines to the Board. The Committee shall conduct an annual performance assessment of the Committee.

V. Other Committee Responsibilities

The Committee shall maintain minutes of meetings, ensuring that the minutes document all significant issues that have been discussed during the meetings, and all decisions made by the Committee. The minutes of the Committee meetings will be presented to the Board for review at their Board meetings. The Chair of the Committee will provide additional comments to the Board as deemed appropriate.

VI. Disclosure of Committee Charter

This Committee Charter will be made available on the Company's website.

Approved by the MIRA Pharmaceuticals, Inc. Board of Directors on [_____], 2023.

MIRA PHARMACEUTICALS, INC.

COMPENSATION COMMITTEE CHARTER

The Board of Directors (the "Board") of MIRA Pharmaceuticals, Inc. (the "Company") has established a standing Compensation Committee (the "Committee") pursuant to Section 607.0825 of the Florida Business Corporation Act ("FBCA") and for the purposes described in this charter of the Committee (the "Committee Charter").

I. Purpose of the Committee

The primary purpose of the Committee is to assist the Board in discharging its responsibilities in respect of compensation of the Company's chief executive officer (the "CEO") and other named executive officers (the "Named Executive Officers"). In addition, the Committee is charged with overall responsibility for approving and evaluating all incentive and equity compensation plans, policies, and programs of the Company as they affect the CEO, the Named Executive Officers, and other executive officers, and significant Company compensation matters and policies generally.

II. Organization

The Committee shall consist of at least three members of the Board, each of whom shall be independent in accordance with the requirements of the rules of the Nasdaq Stock Exchange (including those additional independence requirements specific to compensation committee membership) and otherwise meet the qualifications set forth herein. Prior to appointing any member of the Committee, the Board shall affirmatively determine that such individual is independent under the rules of the Nasdaq Stock Exchange and, in making such determination, consider all factors specifically relevant to determining whether a director has a relationship to the Company which is material to that director's ability to be independent from management in connection with the duties of a Committee member, including, but not limited to: (A) the source of compensation of such director, including any consulting, advisory, or other compensatory fee paid by the Company to such director; (B) whether such director is affiliated with the Company, a subsidiary of the Company, or an affiliate of a subsidiary of the Company. The Board shall appoint the members of the Committee, who shall serve until their successors are appointed and qualified, or until such member's earlier resignation or removal.

Notwithstanding the above, one director of the Company who is not independent in accordance with the rules of the Nasdaq Stock Exchange (including those additional independence requirements specific to compensation committee membership), but is not a current officer or employee or an immediate family member of such person, may be appointed to the Committee, if the Board, under exceptional and limited circumstances, determines that membership on the Committee by the individual is required by the best interests of the Company and its shareholders, and the Board discloses, in the next annual meeting proxy statement (or in its next annual report filed with the SEC on Form 10-K if the Company does not file an annual proxy statement) subsequent to such determination, the nature of the relationship and the reasons for that determination. A director appointed to the Committee pursuant to this exception may not serve for in excess of two years.

The chair of the Committee (the "Chair") may be designated by the full Board or, if it does not do so, the Committee members shall elect a Chair by vote of a majority of the full Committee. The Board may remove any member from the Committee at any time with or without cause. The Committee may form and delegate authority to subcommittees when appropriate, as permitted by the charter and bylaws of the Company and consistent with the FBCA.

III. Structure and Meetings

The Chair will preside at each meeting, and in consultation with the other members of the Committee, will set the frequency and length of each meeting and the agenda of items to be addressed at each meeting; provided, that the Committee shall meet no less frequently than twice annually. If a Chair is not designated or present, the members of the Committee may designate a chair of the meeting by majority vote of the Committee membership. To the extent beneficial to the Committee, the Chair, or in such person's absence the chair of the meeting, may circulate an agenda for each meeting in advance of the meeting. The CEO shall not be present during any voting or deliberations by the Committee on his or her compensation.

IV. Duties and Responsibilities

The Committee shall have the power and authority of the Board to perform the following duties and to fulfill the following responsibilities:

a. on an annual basis, develop written guidelines and review the performance of the CEO, review and approve documented corporate goals relevant to the compensation of the CEO, evaluate and deliver a written assessment of the performance of the CEO in light of these goals and objectives, and set the compensation of the CEO based on this evaluation;

b. with the assistance of the CEO, annually review and approve corporate goals relevant to the compensation of Named Executive Officers and set the compensation of the Named Executive Officers, including without limitation any benefits packages; and annually review the Company's overall employee benefits program;

c. produce an annual report on executive compensation for inclusion in the Company's proxy statement, in accordance with applicable rules and regulations;

d. review and approve the Company's cash incentive compensation or bonus plans and equity-based plans for Named Executive Officers, other Company officers, and (in the aggregate) other Company employees, establish criteria for the granting of cash and equity-based awards to the Company's officers and other employees, and review and approve the granting of equity-based awards in accordance with such criteria;

e. review director compensation levels and practices, considering the results of the most recent stockholder advisory vote on incentive compensation, and recommend, from time to time, changes in such compensation levels and practices to the Board with equity ownership in the Company encouraged;

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f. review the Company's incentive compensation arrangements to determine whether they encourage excessive risk, and evaluate compensation policies and practices that could mitigate any such risk;

g. develop and annually assess the effectiveness of retention and succession plans for the Company's Chief Executive Officer, and review and approve retention and succession plans developed by the Company's senior officers related to other important Company employees;

h. annually review and assess the adequacy of this Committee Charter and recommend any proposed changes to the Board for approval;

i. make recommendations to the Board with respect to (i) Committee member qualifications, (ii) Committee member appointments and removals, (iii) Committee structure and operations, and (iv) Committee reporting to the Board; and

j. perform an annual self-assessment of the performance of the Committee.

V. Committee Resources

The Committee may, in its sole discretion, retain, or obtain the advice of a compensation consultant, independent legal counsel, or other adviser. The Committee shall be directly responsible for the appointment, compensation, and oversight of the work of any compensation consultant, independent legal counsel, or other adviser retained by the Committee. The Company shall provide for appropriate funding, as determined by the Committee, for payment of reasonable compensation to a compensation consultant, independent legal counsel, or any other adviser retained by the Committee.

The Committee may select a compensation consultant, legal counsel, or other adviser to the Committee only after taking into consideration all relevant factors, including the following: (i) the provision of other services to the Company by the person that employs the compensation consultant, legal counsel, or other adviser; (ii) the amount of fees received from the Company by the person that employs the compensation consultant, legal counsel, or other adviser, as a percentage of the total revenue of the person that employs the compensation consultant, legal counsel, or other adviser; (iii) the policies and procedures of the person that employs the compensation consultant, legal counsel, or other adviser that are designed to prevent conflicts of interest; (iv) any business or personal relationship of the compensation consultant, legal counsel, or other adviser with a member of the Committee; (v) any stock of the Company owned by the compensation consultant, legal counsel, or other adviser; and (vi) any business or personal relationship of the compensation consultant, legal counsel, other adviser, or the person employing the adviser, with an executive officer of the Company.

VI. Other Committee Responsibilities

The Committee shall maintain minutes of meetings, ensuring that the minutes document all significant issues that have been discussed during the meetings, and all decisions made by the Committee. The minutes of the Committee meetings will be presented to the Board for review at their Board meetings. The Chair of the Committee will provide additional comments to the Board as deemed appropriate.

VII. Disclosure of Committee Charter

This Committee Charter will be made available on the Company's website.

Approved by the MIRA Pharmaceuticals, Inc. Board of Directors on [____], 2023.

MIRA PHARMACEUTICALS, INC.

CORPORATE GOVERNANCE GUIDELINES

The Board of Directors (the "Board") of MIRA Pharmaceuticals, Inc. (the "Company") has adopted the following Corporate Governance Guidelines (the "Guidelines") to assist the Board in the exercise of its responsibilities and to serve the interests of the Company and its stockholders. These Guidelines should be interpreted in the context of all applicable laws and the Company's certificate of incorporation, bylaws and other corporate governance documents. These Guidelines acknowledge the leadership exercised by the Board's standing committees and their chairs and are intended to serve as a flexible framework within which the Board may conduct its business and not as a set of legally binding obligations. The Guidelines are subject to modification from time to time by the Board as the Board may deem appropriate and in the best interests of the Company and its stockholders or as required by applicable laws and regulations.

I. THE BOARD

A. Independence of the Board

Except as otherwise permitted by the applicable Nasdaq Stock Market LLC ("Nasdaq") rules, the Board will be comprised of a majority of directors who qualify as independent directors (the "Independent Directors") as required under Nasdaq rules.

B. Separate Sessions of Independent Directors

The Independent Directors will meet in executive session without non-Independent Directors or management present on a regularly scheduled basis, but no less than twice per year.

C. Lead Director

If the Chairperson of the Board is a member of management or does not otherwise qualify as an Independent Director, the Independent Directors may elect from among themselves a lead director. The lead director's responsibilities include, but are not limited to: presiding over all meetings of the Board at which the Chairperson of the Board is not present, including any executive sessions of the Independent Directors; approving Board meeting schedules and agendas; and acting as the liaison between the Independent Directors on the one hand and the Chief Executive Officer and Chairperson of the Board on the other. At such times as the Chairperson of the Board is an Independent Director, the Chairperson of the Board may serve as lead director. The Board may modify its leadership structure in the future as it deems appropriate.

D. Director Qualification Standards and Additional Selection Criteria

In evaluating the suitability of individual candidates (both new candidates and current Board members), the Nominating and Corporate Governance Committee, in recommending candidates for election, and the Board, in approving (and, in the case of vacancies, appointing) such candidates, may take into account many factors, including, but not limited to: personal and professional integrity, ethics and values; experience in corporate management, such as serving as an officer or former officer of a publicly held company; strong finance experience; relevant social policy concerns; experience relevant to the Company's industry; experience as a board member or executive officer of another publicly held company; relevant academic expertise or other proficiency in an area of the Company's operations; diversity of expertise and experience in substantive matters pertaining to the Company's business relative to other board members; diversity of background and perspective, including, but not limited to, with respect to age, gender, race, place of residence and specialized experience, gender identification or identification as an underrepresented minority or as LGBTQ+, practical and mature business judgment, including, but not limited to, the ability to make independent analytical inquiries; and any other relevant qualifications, attributes or skills. The Board evaluates each individual in the context of the Board as a whole, with the objective of assembling a group that can best perpetuate the success of the business and represent stockholder interests through the exercise of sound judgment using its diversity of experience and background in these various areas. In determining whether to recommend a director for re-election, the Nominating and Corporate Governance Committee may also consider the director's past attendance at meetings and participation in and contributions to the activities of the Board.

E. Director Orientation and Continuing Education

Management will provide an orientation process for new directors, including background material on the Company and its business. As appropriate, management will provide opportunities for additional educational sessions for directors on matters relevant to the Company and its business.

F. Service on Other Boards

The Board does not believe that its members should be prohibited from serving on boards and/or committees thereof of other organizations and has not adopted any guidelines limiting such activities. However, the Nominating and Corporate Governance Committee may take into account the nature of and time involved in a director's service on other boards and/or committees thereof in evaluating the suitability of individual director candidates and current directors. Prior to accepting any position on the board of directors or committees of the board of directors of any organization, whether for-profit or not-for-profit, current directors should notify the Nominating and Corporate Governance Committee. The Nominating and Corporate Governance Committee shall review the proposed board and/or committee membership to ensure compliance with applicable laws and policies.

Service on other boards and/or committees should be consistent with the Company's conflict of interest policies.

G. Directors Who Resign or Materially Change Their Current Positions with Their Own Company or Become Aware of Circumstances that May Adversely Reflect upon the Director or the Company

When a director, including any director who is currently an officer or employee of the Company, resigns or materially changes his or her position with his or her employer or becomes aware of circumstances that may adversely reflect upon the director or the Company, such director should notify the Nominating and Corporate Governance Committee of such circumstances. The Nominating and Corporate Governance Committee will consider the circumstances, and may in certain cases recommend that the Board request that the director submit his or her resignation from the Board if, for example, continuing service on the Board by the individual is not consistent with the criteria deemed necessary for continuing service on the Board.

H. Term Limits

As each director is periodically subject to election by stockholders, the Board does not believe it is in the best interests of the Company to establish term limits at this time. Additionally, such term limits may cause the Company to lose the contribution of directors who have been able to develop, over a period of time, increasing insight into the Company's business and therefore can provide an increasingly significant contribution to the Board.

I. Director Responsibilities

The business and affairs of the Company will be managed by or under the direction of the Board, including through one or more of its committees. Each director is expected to spend the time and effort necessary to properly discharge his or her responsibilities. These include:

- exercising their business judgment in good faith;
- acting in what they reasonably believe to be the best interest of all stockholders;
- becoming and remaining well-informed about the Company's business and operations and general business and economic trends affecting the Company; and
- ensuring that the business of the Company is conducted so as to further the long-term interests of its stockholders.

J. Compensation

The Board believes that director compensation should fairly pay directors for work required in a business of the Company's size and scope, and that compensation should align directors' interests with the long-term interests of stockholders. The Compensation Committee will review and make recommendations to the Board regarding the cash and equity compensation of directors. The Company's executive officers do not receive additional compensation for their service as directors.

Except as otherwise permitted by the applicable Nasdaq rules, members of the Audit Committee and Compensation Committee may not directly or indirectly receive any compensation from the Company other than their directors' compensation, including any compensation for service on committees of the Board and the receipt of equity incentive awards.

K. Stock Ownership

The Company encourages directors to own shares of the Company's stock. However, the number of shares of the Company's stock owned by any director is a personal decision and, at this time, the Board has chosen not to adopt a policy requiring ownership by directors of a minimum number of shares.

L. Board Access to Senior Management

The Board will have complete access to Company management in order to ensure that directors can ask any questions and receive all information necessary to perform their duties. Directors should exercise judgment to ensure that their contact with management does not distract managers from their jobs or disturb the business operations of the Company. Any meetings or contacts that a director wishes to initiate may be arranged through the Chief Executive Officer or the Chairperson of the Board, or if neither is available or neither is appropriate, directly by the director. To the extent appropriate, such contact, if in writing, should be copied to the Chief Executive Officer of the Company.

M. Board Access to Third-Party Advisors

The Board committees may hire third-party advisors as set forth in their applicable charters. The Board as a whole shall have access to any third-party advisor retained by the Company, and the Board may hire any third-party advisor it considers necessary to discharge its responsibilities.

N. Board and Committee Self-Evaluations

The Board and its committees conduct periodic self-assessments under applicable Nasdaq rules to determine whether the Board and its committees are functioning effectively. The Nominating and Corporate Governance Committee will oversee such self-evaluations.

II. BOARD MEETINGS

A. Frequency of Meetings

The Board will meet as often as it deems necessary or advisable in order to perform its responsibilities. In addition, special meetings may be called from time to time as determined by the needs of the business. It is the responsibility of the directors to attend meetings.

B. Director Attendance

A director is expected to spend the time and effort necessary to properly discharge his or her responsibilities. Accordingly, a director is expected to regularly prepare for and attend meetings of the Board and all committees on which the director serves (including separate meetings of the non-management directors and the Independent Directors), with the understanding that, on occasion, a director may be unable to attend a meeting. A director who is unable to attend a meeting of the Board or a committee of the Board is expected to notify the Chairperson of the Board or the Chairperson of the appropriate committee in advance of such meeting, and, whenever possible, participate in such meeting via teleconference in the case of an in-person meeting. It is expected that directors will attend the Company's annual meeting of stockholders.

C. Attendance of Non-Directors

The Board encourages the Chairperson of the Board or of any committee to invite Company management and outside advisors or consultants from time to time to participate in Board and/or committee meetings to (i) provide insight into items being discussed by the Board which involve the manager, advisor or consultant, (ii) make presentations to the Board on matters which involve the manager, advisor or consultant, and (iii) bring managers with high potential into contact with the Board. Attendance of non-directors at Board meetings is at the discretion of the Board.

D. Advance Receipt of Meeting Materials

Information regarding the topics to be considered at a meeting is essential to the Board's understanding of the business and the preparation of the directors for a productive meeting. To the extent feasible, the meeting agenda and any written materials relating to each Board meeting will be distributed to the directors sufficiently in advance of each meeting to allow for meaningful review of such agenda and materials by the directors. Directors are expected to have reviewed and be prepared to discuss all materials distributed in advance of any meeting.

III. COMMITTEE MATTERS

The Board currently has three (3) standing committees: (i) the Audit Committee, (ii) the Compensation Committee and (iii) the Nominating and Corporate Governance Committee. Each committee will perform its duties as assigned by the Board in compliance with the Company's bylaws and the committee's charter. It is the responsibility of the directors to attend the meetings of the committees on which they serve.

IV. SUCCESSION PLANNING

The Board (and/or a committee delegated by the Board) will (i) work on a periodic basis with the Chief Executive Officer to evaluate the Company's succession plans upon the Chief Executive Officer's retirement and in the event of an unexpected occurrence, and (ii) periodically review the performance of the Chief Executive Officer.

V. INTERESTED PERSONS' COMMUNICATIONS WITH THE BOARD

To help foster input and insight from the Company's stockholders and other interested parties (collectively, "Interested Parties"), Interested Parties may communicate with, or otherwise make his or her concerns known directly to, the Chairperson of the Board, the non-management directors or any specified individual director by addressing such communications to the intended recipient by name or position in care of: MIRA Pharmaceuticals, Inc., 900 West Platt Street Suite 200, Tampa, Florida 33606 to the attention of the Secretary. The Secretary will forward such communications to the appropriate party.

* * * * *

Approved by the MIRA Pharmaceuticals, Inc. Board of Directors on June 27, 2023.

MIRA PHARMACEUTICALS, INC.

Insider Trading Policy

Adopted by the Board of Directors on June 27, 2023, and effective immediately prior to the consummation of the Company's initial public offering.

This policy applies to all employees at every level of the Company and its subsidiaries, including the directors of the Company.

Overview

Given that the common stock of the MIRA Pharmaceuticals, Inc. (the "Company") is traded on the Nasdaq Capital Market, there are certain important restrictions and limitations imposed on you under the federal securities laws. Any violation of these restrictions may subject the Company and yourself to serious criminal and civil liabilities and sanctions. Such a violation would also severely damage the Company's reputation and business relationships.

Prohibition Against Trading on or Disclosing Material Nonpublic Information

It is the policy of the Company that all employees, officers and directors who become aware of any material information relating to the Company that has not been made available to the general public by press release, a filing with the United States Securities and Exchange Commission or otherwise, and their immediate family members and other individuals in their household as well as entities controlled by them (such as trusts, partnerships and corporations), are prohibited from directly or indirectly purchasing or selling (or offering to purchase or sell) Company stock. In addition, it is the Company's policy that all employees, officers and directors, and their immediate family members and other individuals in their household as well as entities controlled by them, are prohibited from directly or indirectly disclosing (*i.e.*, tipping) such information to any other person who may trade in Company stock.

It is difficult to describe exhaustively what constitutes "material" information, but you should assume that any information, positive or negative, which might affect the Company's stock price or otherwise might be of significance to an investor in determining whether to purchase, sell or hold Company stock would be "material." Such information includes, without limitation:

- information regarding the Company's product candidate(s) and the Company's development programs, clinical trials, FDA communications, and regulatory status and activities;
- earnings information (favorable or unfavorable), including annual, quarterly or monthly financial results and any guidance or projections relating to future earnings performance (which can include any confirmations of guidance);
- pending or proposed material acquisitions or dispositions of businesses and/or assets, mergers, tender offers or joint ventures;

- developments regarding significant customers, vendors or other suppliers (including the acquisition or loss of an important contract) or new products or service offerings;
- a change in auditors or an auditor notification that the Company may no longer rely on an auditor's audit report;
- a change in executive management of the Company;
- a significant change in compensation policy;
- financings and other events regarding the Company's securities (*e.g.*, stock or debt repurchase plans, calls of securities for redemption, stock splits, changes in dividend policy, changes to the rights of security holders, public or private offerings of securities, or defaults on debt or senior securities);
- pending or threatened significant litigation or a change in the status of significant litigation; or
- bankruptcies or receiverships involving the Company or third parties with whom the Company has a significant relationship (including brand partners, vendors or other suppliers).

This list is merely illustrative and not exhaustive. If you are unsure whether information is considered "nonpublic" or "material," you should consult with the Company's Compliance Officer or assume that the information is material and nonpublic. The Company's "Compliance Officer" for this purpose is the Company's General Counsel or such other officer as may be designated by the Company's Board of Directors for purposes of this policy.

These prohibitions on purchasing or selling Company stock will be in effect through 4:00 p.m., E.T., on the business day following the day the Company makes such information available to the general public. For example, if you are aware of information that could be considered "material" and the Company makes a public disclosure through a filing with the United States Securities and Exchange Commission or a press release (like an earnings release) on a Tuesday, you are prohibited from purchasing or selling Company stock until 4:00 p.m., E.T, on Wednesday.

It is also the policy of the Company that employees, officers and directors who become aware of any material nonpublic information in the course of their employment or service with the Company relating to any other company, including the Company's business partners, customers, vendors and suppliers, may not directly or indirectly trade in that company's securities (or disclose such information to any other person who can trade in that company's securities) until the information becomes public.

Applicability of Policy to Transactions under Company Benefit Plans

The insider trading prohibition includes transactions under any of the benefit plans adopted by the Company or its affiliates (including the 401(k) plan and any future dividend reinvestment or similar plan) from time to time to the extent the transactions involve a voluntary investment in or sale of Company stock, including elections to participate in a plan or allocate contributions to any such plan's Company stock fund, changes in those contribution elections or payroll deductions in connection therewith, and transfers into and out of any such Company stock funds, while in possession of material nonpublic information. The prohibition on insider trading does not, however, apply to (a) automatic purchases pursuant to any of the benefit plans adopted by the Company from time to time (provided that changes in the amounts of these automatic purchases may not be made while in possession of material nonpublic information); (b) automatic payroll deductions, pursuant to a contribution election made when an individual was not aware of material nonpublic information, to purchase Company stock pursuant to Company benefit plans that may be in effect from time to time; (c) award payouts by the

Company to employees or directors under any equity-based compensation plans; (d) exercises of stock options or other equity awards where the employee or director pays the exercise price in cash and does not fund the exercise price with the sale of Company stock; or (e) exercises of tax withholding rights pursuant to which employees or directors elect to have the Company withhold shares subject to an option, restricted stock unit or other equity award to satisfy tax withholding requirements.

Prohibition on Derivatives and Hedging Transactions

Investing in Company stock provides an opportunity to share in the future growth of the Company. Investment in the Company and sharing in the growth of the Company, however, does not mean short-range speculation based on fluctuations in the market. These activities may put the personal gain of an individual in conflict with the best interests of the Company and its shareholders. Consequently, trading in puts, calls and other derivative securities on stock of the Company is prohibited at all times. In addition, the purchase of financial instruments (including prepaid variable forward contracts, equity swaps, collars and exchange funds) or otherwise engaging in transactions that are designed to or have the effect of hedging or offsetting any decrease in the market value of the Company's stock are also prohibited at all times. Anyone may, of course, exercise options and other equity based awards granted to them by the Company and, subject to the restrictions discussed in this policy and other applicable Company policies and any governing plans, arrangements or agreements which apply to such options or other equity based awards, sell shares acquired through the exercise of options or other equity based awards.

Confidentiality

Serious problems could be caused for the Company by unauthorized disclosure of internal information about the Company, whether or not for the purpose of facilitating improper trading in the Company's stock. It is the policy of the Company that all employees, officers and directors must keep strictly confidential all material nonpublic information that such persons learn regarding the Company (and all material nonpublic information that such persons learn in the course of their employment or service with the Company relating to any other company). It is also the policy of the Company that you should not discuss internal Company matters or developments with anyone outside of the Company, except as required in your performance of regular employment duties. Similarly you should not discuss Company affairs in public or quasi-public areas where your conversation may be overheard (*i.e.*, restaurants, restrooms, elevators, etc.).

These prohibitions apply specifically, but not exclusively, to inquiries about the Company that may be made by the financial press, investment analysts or others in the financial community. It is important that all such communications on behalf of the Company be through an appropriately designated officer under carefully controlled circumstances. Unless an employee, officer or director is expressly authorized to answer financial questions, he or she must refuse to comment, and instead refer the inquirer to the Company's Compliance Officer.

* * * * *

If you have any doubts as to your responsibilities under this policy, seek clarification and guidance from the Company's Compliance Officer **before you act**. Do not try to resolve uncertainties on your own.

MIRA Pharmaceuticals, Inc. expects the strictest compliance with these procedures by all personnel at every level. In fact, failure to observe them may result in serious legal difficulties for the offender, as well as the Company. A failure to comply may also result in grounds for dismissal with cause.

Addendums A and B are attached for Section 16 officers, directors and other designated "insiders."

MIRA PHARMACEUTICALS, INC.

Insider Trading Policy

Addendum A for
Section 16 Officers, Directors and Other Designated "Insiders"

As a Section 16 officer, director or designated "insider" of the Company you agree to strictly comply with all of the restrictions and limitations contained in the MIRA Pharmaceuticals, Inc. Insider Trading Policy (the "Policy") as supplemented by this Addendum A.

Window Periods

In addition to the prohibitions set forth in the Policy, you understand that you may only purchase or sell Company stock during four "window periods" occurring throughout the year (unless you are then in possession of material nonpublic information concerning the Company, in which case you cannot purchase or sell shares even during a window period). These window periods begin at 4:00 p.m., E.T., on the business day after the Company issues a press release announcing, or otherwise publicly announces, its quarterly or annual financial results. Each window period will last until 10 days before the last day of the calendar quarter.

You further understand that, from time to time, the Company, through its Board of Directors, Compliance Officer or other appropriate officer, may not open a window period, or may close a window period after initially opening it, because of material developments that have not yet been disclosed to the public. You agree that you will not purchase or sell Company stock during any window period if you have received notice from the Company that the window period is not going to be opened or that the window period is closed. In addition, you agree that you will not disclose to others that the Company has decided not to open, or to close, a window period.

The window periods do not apply to purchases or sales of Company stock that are made pursuant to Rule 10b5-1 Trading Plans that have been adopted in accordance with the Company's Rule 10b5-1 Trading Plan Guidelines (which are attached as Addendum B). In addition, as set forth in the Policy, the window periods (and the general prohibition on insider trading) do not apply to (a) automatic purchases pursuant to any of the benefit plans adopted by the Company from time to time (provided that changes in the amounts of these automatic purchases may not be made while in possession of material nonpublic information); (b) automatic payroll deductions, pursuant to a contribution election made when an individual was not aware of material nonpublic information, to purchase Company stock pursuant to Company benefit plans that may be in effect from time to time; (c) award payouts by the Company to employees or directors under any equity-based compensation plans; (d) exercises of stock options or other equity awards where the employee or director pays the exercise price in cash and does not fund the exercise price with the sale of Company stock; or (e) exercises of tax withholding rights pursuant to which employees or directors elect to have the Company withhold shares subject to an option, restricted stock unit or other equity award to satisfy tax withholding requirements.

Pre-Clearance

You further understand that, as an "insider" of the Company, it is the policy of the Company that you are required to **pre-clear** ALL of your contemplated transactions in the Company's stock with the Company's Compliance Officer (including, without limitation, open market and other purchases and sales; exercises of stock options, including cashless exercises, and exercises of other equity awards; gifts; trust transfers; entering into a Rule 10b5-1 Trading Plan in accordance with the Company's Rule 10b5-1 Trading Plan Guidelines; and transactions under any of the benefit plans adopted by the Company from time to time to the extent the transactions involve a voluntary investment in or

sale of Company stock). The pre-clearance policy also applies to transactions in Company stock by your spouse, minor children and other individuals who share your home, as well as entities controlled by you (such as trusts, partnerships and corporations). The pre-clearance policy does not apply to (1) automatic purchases of Company stock or payroll deductions to purchase Company stock under Company benefit plans that may be in effect from time to time, pursuant to an election made in accordance with the pre-clearance policy and when an individual was not aware of material nonpublic information; or (2) award payouts by the Company to employees or directors under any equity-based compensation plans; or (3) purchases or sales of Company stock that are made pursuant to Rule 10b5-1 Trading Plans that have been adopted in accordance with the Company's Rule 10b5-1 Trading Plan Guidelines.

The Company's "Compliance Officer" is the Company's General Counsel or such other officer that is designated by the Company's Board of Directors.

Clearance of a transaction does not constitute a recommendation by the Company or any of its employees or agents that you should engage in the subject transaction. Decisions regarding requests for pre-clearance are made at the discretion of the Company's Compliance Officer (or, if the party requesting clearance is the Company's Compliance Officer, the Company's Chief Executive Officer), who may consult with outside legal counsel and other professionals in determining whether to grant any request for pre-clearance. Clearance of a transaction is valid for a five business day period only. If the transaction order is not placed within that five business day period, pre-clearance for the transaction must be obtained again from the Company's Compliance Officer (or Chief Executive Officer, as applicable). Even if the Compliance Officer has granted a request for clearance, if corporate developments subsequently occur that could create an issue for the Company or you if the transaction were to be completed, then the clearance of the transaction, if it has not already occurred, could be withdrawn. If clearance of a contemplated transaction is denied, the fact of such denial must be keep confidential by you.

Prohibition on Margin Accounts and Pledges

Stock held in a margin account may be sold by the broker without the customer's consent if the customer fails to meet a margin call. Similarly, stock pledged as collateral for a loan may be sold in foreclosure if the borrower defaults on the loan. Because a margin sale or foreclosure sale may occur at a time when the customer or borrower is aware of material nonpublic information or otherwise is not permitted to trade in Company stock, you further understand that you are prohibited from holding Company stock in a margin account or pledging Company stock as collateral for a loan.

The undersigned hereby certifies and states that he or she has carefully read the MIRA Pharmaceuticals, Inc. Insider Trading Policy (the "Policy"), that he or she agrees to strictly comply with all of the restrictions and limitations contained in the Policy as supplemented by this Addendum A, that he or she understands that neither the window period policy nor the pre-clearance policy constitutes protection from liability for the undersigned in the event the undersigned effects a transaction in Company stock while in possession of material nonpublic information, and that the Company and all of its employees and agents assume no liability for the consequences of any such transaction.

Signature

Print Name

Title

PLEASE RETURN THIS SIGNED CERTIFICATE TO THE COMPANY'S COMPLIANCE OFFICER AS SOON AS POSSIBLE.

MIRA PHARMACEUTICALS, INC.

Rule 10b5-1 Trading Plan Guidelines

Addendum B to Insider Trading Policy for
Section 16 Officers, Directors and Other Designated "Insiders"

These Rule 10b5-1 Trading Plan Guidelines are applicable to any Company director, executive officer or employee designated to be an "insider" (those individuals who are subject to both the Company's Insider Trading Policy and Addendum A to that Policy):

1. Every Rule 10b5-1 Trading Plan must be in writing.

2. Every Rule 10b5-1 Trading Plan must be entered into in good faith and not as part of a plan or scheme to evade the provisions of Rule 10b-5 or Rule 10b5-1 of the Securities Exchange Act of 1934, as amended (the "Exchange Act").

3. Every Rule 10b5-1 Trading Plan must be entered into during a Company "window period" that is not closed (both as described in the Company's insider trading policies).

4. Every Rule 10b5-1 Trading Plan must also be entered into when the particular Company insider is not otherwise aware of any material nonpublic information about the Company.

5. Every Rule 10b5-1 Trading Plan must provide for a period of at least thirty (30) days between the establishment of a Rule 10b5-1 Trading Plan and the first trade to occur pursuant thereto.

6. Every Rule 10b5-1 Trading Plan must fully comply with all requirements of Rule 10b5-1 of the Exchange Act, including, without limitation, the requirement that the Rule 10b5-1 Trading Plan either (a) expressly specify the amount, price and date of the sales (or purchases) of the Company's stock to be effected; (b) provide a formula, algorithm or computer program for determining when to sell (or purchase) the Company's stock, the quantity to sell (or purchase) and the price; or (c) delegate decision-making authority with regard to these transactions to someone without any material nonpublic information about the Company.

7. Every Rule 10b5-1 Trading Plan must ensure that the Company insider fully complies with his or her Section 16 of the Exchange Act obligations.

8. Every Rule 10b5-1 Trading Plan must fully comply with Rule 144 of the Securities Act of 1933, as amended, including, without limitation, the Form 144 filing requirements and the volume limitations for every "rolling" three-month period.

9. Every Rule 10b5-1 Trading Plan must provide that prior to any early termination of the plan the Company insider has consulted with, and received the approval of, the Company's Compliance Officer (or, if the applicable insider is the Company's Compliance Officer, the Company's Chief Executive Officer).

10. Every Rule 10b5-1 Trading Plan must be approved in advance by the Company's Compliance Officer (or, if the applicable insider is the Company's Compliance Officer, the Company's Chief Executive Officer).

11. Any modification or amendment to an approved Rule 10b5-1 Trading Plan must be approved in advance by the Company's Compliance Officer (or, if the applicable insider is the Company's Compliance Officer, the Company's Chief Executive Officer), must be entered into during a Company "window period" that is not closed (both as described in the Company's insider trading policies) and must also be entered into when the particular Company insider is not otherwise aware of any material nonpublic information about the Company.

12. While a Rule 10b5-1 Trading Plan is in effect for a Company insider, such Company insider must conduct all trading transactions in Company stock under the Rule 10b5-1 Trading Plan (unless sales are conducted under an effective Company filed registration statement).

* * * * *

Note: Notwithstanding any approval of a Rule 10b5-1 Trading Plan, the Company and all of its employees and agents assume no liability for the consequences of any transaction made pursuant to any such Rule 10b5-1 Trading Plan.

If you have any doubts as to your responsibilities under these guidelines, seek clarification and guidance from the Company's Compliance Officer **before you act**. Do not try to resolve uncertainties on your own.

MIRA PHARMACEUTICALS, INC.

Insider Trading Policy

Checklist for
Section 16 Officers, Directors and Other Designated "Insiders"

You should ask the following questions and take the following actions before making any purchase, sale or other transfer of shares of Company stock:

1. Have I previously adopted a Rule 10b5-1 Trading Plan in accordance with the Company's Rule 10b5-1 Trading Plan Guidelines or have I previously entered into a Company benefit plan that provides for automatic purchases or sales of Company stock or payroll deductions to purchase Company stock in accordance with the Company's Insider Trading Policy? If "yes," then stop here – you **can** trade pursuant to the terms of your Rule 10b5-1 Plan or those benefit plan(s). If "no," then go to question 2.

2. Are we inside a window period? If "no," then stop here – you **cannot** trade in Company stock. If "yes," then go to question 3.

3. If we are inside a window period, have I received notification that the window has not been opened or has been closed? If "yes," then stop here – you **cannot** trade in Company stock. If "no," then go to question 4.

4. Do I have material nonpublic "inside" information about the Company? If "yes," then stop here – you **cannot** trade in Company stock. If "no," then go to question 5.

5. Have I purchased any Company stock (or has anyone purchased any Company stock with respect to which I am deemed a "beneficial owner") within the last six months? If "yes," then you **cannot** sell stock, but you may buy stock subject to the pre-clearance procedures discussed in question 7.

6. Have I sold any Company stock (or has anyone sold any Company stock with respect to which I am deemed a "beneficial owner") within the last six months? If "yes," then you **cannot** buy stock, but you may sell stock subject to the pre-clearance procedures discussed in question 7.

7. Have I pre-cleared my transaction with the Company's Compliance Officer? If "no," then you must do so by contacting the Compliance Officer and completing the pre-clearance review. You must affirmatively hear back from the Compliance Officer for pre-clearance to be effective; no response does not mean that you have been pre-cleared. If "yes," then go to question 8.

8. You should request that a transaction confirmation be promptly sent to the Company so that the appropriate Form 4 may be timely filed with the SEC (the Form 4 must be filed with the SEC within two business days of the transaction).

MIRA PHARMACEUTICALS, INC.

Related Person Transaction Policy and Procedures

I. POLICY

MIRA Pharmaceuticals, Inc. (the "Company") recognizes that related person transactions present a heightened risk of conflicts of interest (or the perception thereof) and therefore the Company has adopted this policy (this "Policy") pursuant to which all Related Person Transactions (as defined below) shall be subject to approval or ratification in accordance with the procedures set forth in this Policy.

For the purposes of this Policy, a "Related Person Transaction" is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which the Company (including any of its subsidiaries) was, is or will be a participant, in which any Related Person (as defined below) had, has or will have a direct or indirect material interest and the amount involved exceeds $120,000 (or, to the extent the Company qualifies as a "smaller reporting company" pursuant to the rules of the Securities and Exchange Commission, the amount involves the lesser of $120,000 or 1% of the average of the Company's total assets at year-end for the last two completed fiscal years).

II. PROCEDURES

A. Identification of Related Person Transactions

The Company will review all known transactions, arrangements and relationships in which the Company and a Related Person are participants to determine whether such transactions, arrangements and relationships constitute Related Person Transactions. The Company's finance team is primarily responsible for developing and implementing processes and procedures to obtain information regarding Related Persons with respect to potential Related Person Transactions and then determining, based on the facts and circumstances, whether such potential Related Person Transactions do, in fact, constitute Related Person Transactions requiring compliance with this Policy. In addition, any potential Related Person Transaction that is proposed to be entered into by the Company must be reported to the Company's Chief Financial Officer or such person performing duties similar to those performed by a Chief Financial Officer, or his or her designee, by both the Related Person and the person at the Company responsible for such potential Related Person Transaction.

B. Audit Committee Approval

If the Company's finance team determines that a transaction or relationship is a Related Person Transaction, then the Chief Financial Officer, or such person performing duties similar to those performed by a Chief Financial Officer, shall present to the Audit Committee (the "Committee") of the Board of Directors (the "Board") of the Company each such Related Person Transaction, including all relevant known facts and circumstances relating thereto. With the exception of pre-approved transactions as described below, the Committee shall review the relevant known facts and circumstances of each Related Person Transaction, (other than pre-approved transactions as described below) and either approve or decline to approve the Related Person Transaction. In connection with its review, the Committee shall consider if the transaction is on terms comparable to those that could be obtained in arm's length dealings with an unrelated third party, whether the transaction arose in the ordinary course of business, the extent of the Related Person's interest in the transaction, and shall also take into account any conflicts of interest and/or corporate opportunity provisions of the Company's Code of Business Conduct and Ethics (the "Code"). If advance Committee approval of a Related Person Transaction requiring the Committee's approval is not feasible, then the transaction may be preliminarily entered into by the Company upon prior approval of the transaction by the Chair of the Committee subject to ratification of the transaction by the Committee no later than the Committee's next regularly scheduled meeting; provided that if ratification shall not be forthcoming, all reasonable efforts shall be made to amend the terms of the transaction, which is thereafter approved or ratified by the Committee, or otherwise all reasonable efforts shall be made to to cancel or annul such transaction. If a transaction was not initially determined to be a Related Person Transaction, then upon such determination, the transaction should be presented to the Committee for ratification at the Committee's next regularly scheduled meeting; provided, that if ratification shall not be forthcoming, shall be made to amend the terms of the transaction, which is thereafter approved or ratified by the Committee, or otherwise all reasonable efforts shall be made to cancel or annul such transaction.

Management shall update the Committee as to any material changes to any approved or ratified Related Person Transaction and shall provide a status report of all then current Related Person Transactions at least annually at a regularly scheduled meeting of the Committee.

No director should participate in the approval or ratification of a Related Person Transaction for which he or she is a Related Person or otherwise has an interest.

C. Pre-Approved Transactions

The Committee has reviewed and considered each of the following types of Related Person Transactions, which shall be deemed to be approved or ratified, as applicable, under this Policy:

1. Compensation

   (a) to an executive officer or director of the Company if the compensation is required to be reported in the Company's proxy statement pursuant to Item 402 of Regulation S-K; or

   (b) to an executive officer of the Company, if such compensation would have been required to be reported under Item 402 as compensation earned for services to the Company if the executive was a "named executive officer" in the proxy statement and such compensation has been approved, or recommended to the Board for approval, by the Compensation Committee of the Board.[1]

2. Transactions that are in the Company's ordinary course of business and where the interest of the Related Person arises only

   (a) from the Related Person's position as a director of another corporation or organization that is a party to the transaction; or

   (b) from the direct or indirect ownership by such Related Person and all other Related Persons, in the aggregate, of less than a 10% equity interest in another person (other than a partnership) which is a party to the transaction; or

   (c) from both such positions described in (a) and such ownership described in (b); or

(d) from the Related Person's position as a limited partner in a partnership in which the Related Person and all other Related Persons, in the aggregate, have an interest of less than 10%, and the Related Person is not a general partner of and does not have another position in the partnership.

3. Transactions that are in the Company's ordinary course of business and where the interest of the Related Person arises solely from the ownership of a class of equity securities in the Company and all holders of such class of equity securities of the Company will receive the same benefit on a pro rata basis.

4. Transactions where the rates or charges involved in the transactions are determined by competitive bids.

5. Transactions where a Related Person purchases or sells any securities of the Company at the same per share price sold in a public offering approved by the Board or a committee of the Board.

6. Indebtedness transactions involving a Related Person who qualifies as a Related Person solely because he/she/it is the beneficial owner of more than 5% of any class of the Company's voting securities or is the immediate family member of a beneficial owner of more than 5% of any class of the Company's voting securities.

D. Disclosure

Related Person Transactions are to be disclosed in the Company's applicable filings as required by the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, and related rules and regulations thereunder. Furthermore, any Related Person Transaction is expected to be disclosed to the Board of Directors.

[1] This exclusion is only applicable if the executive officer is not an immediate family member of another Related Person.

E. Other Agreements

Management shall assure that all Related Person Transactions are not in violation of and are approved in accordance with any requirements of the Company's financing or other material agreements.

F. Interpretation

This Policy is intended to comply with Item 404 of Regulation S-K. Notwithstanding anything herein to the contrary, this Policy shall be interpreted in such a manner as to comply with Item 404 of Regulation S-K. In the event that a Related Person Transaction would constitute a conflict of interest or a corporate opportunity under the Code, the provisions of the Code also shall apply to such Related Person Transaction. Any such Related Person Transaction may not be approved hereunder unless it is also approved in accordance with the provisions of the Code and disclosed to the public to the extent required by law or the rules of the principal market on which the Company's common stock is traded.

III. DEFINITIONS

For purposes of this Policy, a "Related Person" is:

1. any person who, at any time during the specified period for which disclosure is required, was a director or executive officer of the Company or a nominee to become a director of the Company;

2. any person or entity who/that, when a transaction in which such person or entity had a direct or indirect material interest occurred or existed was known to be the beneficial owner of more than 5% of any class of the Company's voting securities;

3. any immediate family member of any of the foregoing persons, which means any child, stepchild, parent, stepparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law or sister-in-law of the director, executive officer, nominee or more than 5% beneficial owner, and any person (other than a tenant or employee) sharing the same household of such director, executive officer, nominee or more than 5% beneficial owner.

* * * * *

Approved by the MIRA Pharmaceuticals, Inc. Board of Directors on June 27, 2023.

Exhibit 107

Calculation of Filing Fee Table

Form S-1
(Form Type)

MIRA PHARMACEUTICALS, INC.
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Maximum Aggregate Offering Price (1) (2)	Fee Rate	Amount of Registration Fee
Fees to be paid	Equity	Common stock, par value $0.0001 per share (3)	457(o)	$ 16,400,000	0.00011020	$ 1,807.28
	Equity	Underwriter Warrants (4)	457(g)	—	—	—
	Equity	Common stock issuable upon exercise of Underwriter Warrants (5)	457(o)	600,000	0.00011020	66.12
		Total Offering Amounts		$ 17,000,000		$ 1,873.40
		Total Fees Previously Paid				$ —
		Total Fee Offsets				$ —
		Net Fee Due				$ 1,873.40

(1) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(o) of the Securities Act of 1933, as amended. Includes shares to be sold upon exercise of the underwriters' option to purchase additional shares.
(2) Pursuant to Rule 416, the securities being registered hereunder include such indeterminate number of additional securities as may be issued after the date hereof as a result of stock splits, stock dividends or similar transactions.
(3) Includes shares of common stock which may be issued on exercise of a 45-day option granted to the underwriters to cover over-allotments.
(4) No fee pursuant to Rule 457(g) under the Securities Act of 1933, as amended.
(5) As estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o), the proposed maximum aggregate offering price of the Underwriter Warrants is $600,000, which is equal to 5.0% of the aggregate number of shares of common stock sold in this offering, excluding the overallotment option, at an exercise price equal to 100% of the public offering price per share.