



11,664,888 Shares of Common Stock
Pre-Funded Warrants to Purchase up to 2,224,000 Shares of Common Stock
Common Warrants to Purchase up to 27,777,776 Shares of Common Stock
Shares of Common Stock underlying the Pre-Funded Warrants and Common Warrants

We are offering up to 11,664,888 shares of our common stock and common warrants to purchase an aggregate of 27,777,776 shares of our common stock (and the shares of common stock that are issuable from time to time upon exercise of the common warrants). We are also offering pre-funded warrants to purchase 2,224,000 shares of common stock to certain purchasers whose purchase of shares of common stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock immediately following the consummation of this offering. Each pre-funded warrant will be exercisable for one share of our common stock and is accompanied by a warrant to purchase two shares of our common stock. The purchase price of each pre-funded warrant and accompanying common warrant will be equal to the price at which a share of common stock and accompanying common warrant are sold to the public in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant will be \$0.0001 per share. The pre-funded warrants will be immediately exercisable and may be exercised at any time until all of the pre-funded warrants are exercised in full. This offering also relates to the shares of common stock issuable upon exercise of the pre-funded warrants sold in this offering. Each share of common stock and pre-funded warrant is being sold together with a common warrant to purchase two shares of our common stock at an exercise price of \$1.08 per share (representing 100% of the price at which a share of common stock and accompanying common warrant are sold to the public in this offering). The common warrants will be exercisable immediately and will expire five years from the date of issuance. The shares of common stock and pre-funded warrants, and the accompanying common warrants, can only be purchased together in this offering but will be issued separately and will be immediately separable upon issuance.

Our common stock is listed on The Nasdaq Capital Market under the symbol "SONN." On February 7, 2023 the last reported sale price of our common stock on The Nasdaq Capital Market was \$1.08 per share. There is no established public trading market for the pre-funded warrants, and we do not expect a market to develop. In addition, we do not intend to apply for a listing of the pre-funded warrants on any national securities exchange. Without an active trading market, the liquidity of the pre-funded warrants will be limited.

You should read this prospectus, together with additional information described under the headings "Information Incorporated by Reference" and "Where You Can Find More Information," carefully before you invest in any of our securities.

Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page 6 of this prospectus and in the documents incorporated by reference into this prospectus for a discussion of risks that should be considered in connection with an investment in our securities.

	Per Share and Accompanying Common Warrant	Per Pre-Funded Warrant and Accompanying Common Warrant	Total(2)
Public offering price	\$ 1.08	\$ 1.0799	\$ 14,999,777
Underwriting discounts and commissions (1)	\$ 0.0756	\$ 0.0756	\$ 1,050,000
Proceeds to us, before expenses	\$ 1.0044	\$ 1.0043	\$ 13,949,777

(1) See "Underwriting" for additional information regarding underwriting compensation.

(2) Reflects the issuance and sale of 11,664,888 shares of our common stock and pre-funded warrants to purchase 2,224,000 and accompanying common warrants.

The delivery of the securities offered hereby to purchasers is expected to be made on or about February 10, 2023.

Neither the Securities and Exchange Commission nor any state securities commission 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.

Joint Book-Running Managers

Chardan

EF HUTTON
division of Benchmark Investments, LLC

The date of this prospectus is February 8, 2023.

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ABOUT THIS PROSPECTUS

We incorporate by reference important information into this prospectus. You may obtain the information incorporated by reference without charge by following the instructions under “Where You Can Find More Information.” You should carefully read this prospectus as well as additional information described under “Information Incorporated by Reference,” before deciding to invest in our securities.

Neither we nor the underwriters have authorized anyone to provide you with additional information or information different from that contained or incorporated by reference in this prospectus filed with the Securities and Exchange Commission (the “SEC”). We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The underwriters are offering to sell, and seeking offers to buy, our securities only in jurisdictions where offers and sales are permitted. The information contained in this prospectus, or any document incorporated by reference in this prospectus, is accurate only as of the date of those respective documents, regardless of the time of delivery of this prospectus or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date.

The information incorporated by reference or provided in this prospectus contains statistical data and estimates, including those relating to market size and competitive position of the markets in which we participate, that we obtained from our own internal estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Industry publications, studies and surveys generally state that they have been obtained from sources believed to be reliable. While we believe our internal company research is reliable and the definitions of our market and industry are appropriate, neither this research nor these definitions have been verified by any independent source.

For investors outside the United States (“U.S.”): We and the underwriters have not done anything that would permit this offering or the possession or distribution of this prospectus in any jurisdiction where action for those purposes is required, other than in the U.S. Persons outside the U.S. who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus outside of the U.S.

CAUTIONARY NOTE CONCERNING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that involve substantial risks and uncertainties for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. All statements contained in this prospectus other than statements of historical fact, including statements regarding our strategy, future operations, future financial position, liquidity, future revenue, projected expenses, results of operations, expectations concerning the timing and our ability to commence and subsequently report data from planned non-clinical studies and clinical trials, prospects, plans and objectives of management are forward-looking statements. The words “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “plan,” “expect,” “predict,” “potential,” “opportunity,” “goals,” or “should,” and similar expressions are intended to identify forward-looking statements. Such statements are based on management’s current expectations and involve risks and uncertainties. Actual results and performance could differ materially from those projected in the forward-looking statements as a result of many factors.

We based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy, short-term and long-term business operations and objectives, and financial needs. These forward-looking statements are subject to a number of risks, uncertainties, and assumptions, including those described in “Risk Factors” in this prospectus, and under a similar heading in any other annual, periodic or current report incorporated by reference into this prospectus or that we may file with the SEC in the future. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge quickly and from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the future events and trends discussed in this prospectus, may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. All forward-looking statements are qualified in their entirety by this cautionary statement.

You should also read carefully the factors described in the “Risk Factors” section of this prospectus, and under a similar heading in any other annual, periodic or current report incorporated by reference into this prospectus, to better understand the risks and uncertainties inherent in our business and underlying any forward-looking statements. You are advised to consult any further disclosures we make on related subjects in our future public filings.

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PROSPECTUS SUMMARY

This summary highlights information about our company, this offering and information contained in greater detail in other parts of this prospectus or incorporated by reference into this prospectus from our filings with the SEC listed in the section entitled “Information Incorporated by Reference.” Because it is only a summary, it does not contain all of the information that you should consider before purchasing our securities in this offering and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere or incorporated by reference into this prospectus. You should read the entire prospectus, the registration statement of which this prospectus is a part, and the information incorporated by reference into this prospectus in their entirety, including the “Risk Factors” and our financial statements and the related notes incorporated by reference into this prospectus, before purchasing our securities in this offering.

Except as otherwise indicated herein or as the context otherwise requires, references in this prospectus to “Sonnet Holdings,” “the Company,” “we,” “us” and “our” refer to Sonnet BioTherapeutics Holdings, Inc. and our consolidated subsidiaries.

Overview

We are a clinical stage, oncology-focused biotechnology company with a proprietary platform for innovating biologic medicines of single- or bi-specific action. Known as F_HAB™ (Fully Human Albumin Binding), the technology utilizes a fully human single chain antibody fragment that binds to and “hitch-hikes” on human serum albumin for transport to target tissues. We designed the construct to improve drug accumulation in specific tissues, as well as to extend the duration of activity in the body. F_HAB development candidates are produced in a mammalian cell culture, which enables glycosylation, thereby reducing the risk of immunogenicity. We believe our F_HAB technology, for which we received a U.S. patent in June 2021, is a distinguishing feature of our biopharmaceutical platform that is well suited for future drug development across a range of human disease areas, including in oncology, autoimmune, pathogenic, inflammatory, and hematological conditions.

Our current internal pipeline development activities are focused on cytokines, a class of cell signaling peptides that, among other important functions, serve as potent immunomodulatory agents. Working both independently and synergistically, specific cytokines have shown the ability to modulate the activation and maturation of immune cells that fight cancer and pathogens. However, because they do not preferentially accumulate in specific tissues and are quickly eliminated from the body, the conventional approach to achieving a treatment effect with cytokine therapy typically requires the administration of high and frequent doses. This can result in a reduced treatment effect accompanied by the potential for systemic toxicity, which poses challenges to the therapeutic application of this class of drugs.

Recent Developments

SB102 Clinical Data

On January 19, 2023, we issued a press release announcing that PK profile simulation of SON-1010 dosing has been completed in its randomized, placebo-controlled Phase 1 clinical trial in healthy volunteers. Historically, the therapeutic application of cytokines has been limited by relatively short half-lives and off-target toxicities that are typically associated with peak plasma levels. SON-1010 is a proprietary version of recombinant human interleukin-12 (“rhIL-12”), configured using our Fully Human Albumin Binding (“FHAB”) technology, which has been shown to extend PK and to reduce peak drug levels for improving pharmacodynamic (“PD”) toxicity. The FHAB technology was designed to promote targeting to the tumor microenvironment (“TME”), particularly when levels of secreted protein acidic and rich in cysteine are elevated in the TME. Study SB102 (“SB102”) is a single-ascending dose trial in healthy volunteers (NCT05408572) that was initiated in July, 2022 to address the safety, PK, and PD of SON-1010 in subjects without interference from prior chemotherapy. The Safety Review Committee has found no significant safety concerns to date and has approved advancing to each higher dose level.

Typical dose-related increases were seen with SON-1010 using a validated electrochemiluminescence assay after subcutaneous administration. Drug levels peaked at about 11 hours with a geometric mean maximum concentration (“C_{max}”) of 29, 68, and 125 pg/mL for the 50, 100, and 150 ng/kg dose groups, respectively. The mean elimination half-life (“T_{1/2}”) after a 150 ng/kg dose of SON-1010 was 112 hours, compared to 12 hours for rhIL-12.

Observed increases in interferon gamma (“IFN γ ”) were most pronounced and were dose-related, controlled, and prolonged. SON-1010 induced IFN γ in all active-drug subjects, which peaked at 24 to 48 hours then returned to baseline after 2 weeks. The IFN γ geometric C_{max} was 398, 384, and 666 pg/mL after 50, 100, or 150 ng/kg of SON-1010, respectively, while the AUC over 48 hours was 6050, 10200, and 14600 h*pg/mL. Linear regression was used to predict the IFN γ C_{max} at higher doses, which remain well within the range of safety. Low amounts of IL-10 were induced in a dose-dependent manner, which could also be due to the increase in IFN γ . There were small transient increases in IL-6, IL-8, and TNF α after dosing but no consistent pattern was seen with IL-1 β , IL-2, or IL-4 and there was no evidence of cytokine release syndrome. Safety was consistent with what has been reported previously; adverse events have generally been mild/moderate, transient in nature, and have all been tolerable.

SB102 is designed to robustly evaluate the safety, PK and PD of single ascending doses of SON-1010, using larger groups of healthy volunteers, and is being conducted at a single site in Australia. The study is done in a blinded fashion, comparing a single dose of SON-1010 to placebo utilizing up to five cohorts. Both PK and PD will be closely followed during dose escalation in this double-blind, placebo-controlled study, along with an assessment of the cellular immune responses at each dose using sophisticated fluorescence activated cell sorting analysis. The primary endpoint explores the safety and tolerability of SON-1010, with key secondary endpoints intended to measure PK, PD, and immunogenicity.

Collaboration with Roche

On January 9, 2023, we announced a clinical collaboration agreement with Roche for the clinical evaluation of our SON-1010 with Roche’s atezolizumab in patients with platinum-resistant ovarian cancer (“PROC”). We intend to use a portion of the proceeds from this offering to help fund the clinical trial (“SB221”), which is expected to commence during the second calendar quarter of 2023.

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SB221 will be conducted to assess the safety and preliminary efficacy of SON-1010 in combination with Roche’s atezolizumab in patients with PROC. The companies would provide SON-1010 and atezolizumab, respectively, for use in the study. SB221 is a global Phase 1b/2a multicenter, dose-escalation and randomized proof-of-concept study to assess the safety, tolerability, pharmacokinetics, pharmacodynamics, and efficacy of SON-1010 administered subcutaneously, either alone or in combination with atezolizumab given intravenously. The study is designed in Part 1 to rapidly establish the maximum tolerated dose of the combination in patients with advanced solid tumors in small dose-escalation groups and to expand the dataset at the recommended Phase 2 dose. This would be followed in Part 2 by an assessment in patients with PROC of the potential for improved efficacy of the combination over SON-1010 alone or the standard of care.

ATM Sales

We entered into an At-the-Market Sales Agreement with BTIG, LLC (“BTIG”) on August 15, 2022 (the “2022 Sales Agreement”). Pursuant to the 2022 Sales Agreement, we may offer and sell, from time to time, through BTIG, as sales agent and/or principal, shares of our common stock, having an aggregate offering price of up to \$25.0 million, subject to certain limitations on the amount of common stock that may be offered and sold by us set forth in the 2022 Sales Agreement. Due to the offering limitations applicable to us under General Instruction I.B.6. of Form S-3 and our public float as of August 15, 2022, and in accordance with the terms of the 2022 Sales Agreement, we could offer shares having an aggregate gross sales price of up to \$6.1 million pursuant to the prospectus supplement dated August 15, 2022, filed in connection with the 2022 Sales Agreement. As of November 9, 2022, we had sold an aggregate of 2,477,287 shares of common stock for gross proceeds of \$6.1 million, and we filed a prospectus supplement dated November 9, 2022 registering the offer and sale of shares of our common stock for an aggregate offering price of up to an additional \$1.7 million pursuant to the 2022 Sales Agreement. As of January 11, 2023, we completed the offering under the November 9, 2022 prospectus supplement, selling an aggregate of 1,200,066 shares of common stock for gross proceeds of \$1.7 million, and accordingly we are not able to sell any further shares under the 2022 Sales Agreement as of the date of this prospectus until a new prospectus supplement is filed with respect to the 2022 Sales Agreement.

Corporate Information

We were organized on October 21, 1999, under the name Tulvine Systems, Inc., under the laws of the State of Delaware. On April 25, 2005, Tulvine Systems, Inc. formed a wholly owned subsidiary, Chanticleer Holdings, Inc., and on May 2, 2005, Tulvine Systems, Inc. merged with, and changed its name to, Chanticleer Holdings, Inc. On April 1, 2020, we completed our business combination with Sonnet BioTherapeutics, Inc. (“Sonnet”), in accordance with the terms of the Agreement and Plan of Merger, dated as of October 10, 2019, as amended, by and among us, Sonnet and Biosub Inc., a wholly owned subsidiary of the Company (“Merger Sub”) (the “Merger Agreement”), pursuant to which Merger Sub merged with and into Sonnet, with Sonnet surviving as a wholly owned subsidiary of us (the “Merger”). Under the terms of the Merger Agreement, we issued shares of common stock to Sonnet’s stockholders at an exchange rate of 0.106572 shares for each share of Sonnet common stock outstanding immediately prior to the Merger. In connection with the Merger, we changed our name from “Chanticleer Holdings, Inc.” to “Sonnet BioTherapeutics Holdings, Inc.,” and the business conducted by us became the business conducted by Sonnet.

On September 16, 2022, we effected a reverse stock split of its issued and outstanding common stock, par value \$0.0001 per share, at a ratio of 1-for-14 (the “2022 Reverse Stock Split”). Shares of common stock underlying outstanding stock options and other equity instruments convertible into common stock were proportionately reduced and the respective exercise prices, if applicable, were proportionately increased in accordance with the terms of the agreements governing such securities. No fractional shares were issued in connection with the 2022 Reverse Stock Split. Stockholders who would otherwise be entitled to a fractional share of common stock instead receive a proportional cash payment. All of our historical share and per share information related to issued and outstanding common stock and outstanding options and warrants exercisable for common stock included or incorporated by reference in this prospectus supplement have been adjusted, on a retroactive basis, to reflect the 2022 Reverse Stock Split.

Our principal executive offices are located at 100 Overlook Center, Suite 102, Princeton, New Jersey 08540, and our telephone number is (609) 375-2227. Our website is www.sonnetbio.com. Our website and the information contained on, or that can be accessed through, our website shall not be deemed to be incorporated by reference in, and are not considered part of, this prospectus supplement or the accompanying prospectus. You should not rely on any such information in making your decision whether to purchase our common stock.

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Common Stock Offered by Us

11,664,888 shares

Pre-funded Warrants Offered by Us

We are also offering pre-funded warrants to purchase 2,224,000 shares of common stock to certain purchasers whose purchase of shares of common stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock immediately following the consummation of this offering. Each pre-funded warrant will be exercisable for one share of our common stock. The purchase price of each pre-funded warrant and accompanying common warrant will equal the price at which the share of common stock and accompanying common warrant are being sold to the public in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant will be \$0.0001 per share. The pre-funded warrants will be exercisable immediately and may be exercised at any time until all of the pre-funded warrants are exercised in full. This offering also relates to the shares of common stock issuable upon exercise of the pre-funded warrants sold in this offering.

Common Warrants to be Offered

Common warrants to purchase an aggregate of 27,777,776 shares of our common stock. Each share of our common stock and each pre-funded warrant to purchase one share of our common stock is being sold together with a common warrant to purchase two shares of our common stock. Each common warrant will have an exercise price of \$1.08 per share (representing 100% of the price at which a share of common stock and accompanying common warrant are sold to the public in this offering), will be immediately exercisable and will expire on the fifth anniversary of the original issuance date. The shares of common stock and pre-funded warrants, and the accompanying common warrants, as the case may be, can only be purchased together in this offering but will be issued separately and will be immediately separable upon issuance. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the common warrants.

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Common Stock to be Outstanding Immediately After this Offering (1)

20,219,871 shares, assuming in each case none of the pre-funded warrants or the common warrants issued in this offering are exercised. Assuming all of the pre-funded warrants were immediately exercised, there would be 22,443,871 shares of our common stock outstanding after this offering.

Use of Proceeds

We estimate that the net proceeds from this offering will be approximately \$13.5 million, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the pre-funded warrants or the common warrants in this offering.

We currently intend to use the net proceeds from this offering for research and development, including clinical trials, working capital and general corporate purposes. See “Use of Proceeds” for additional information.

Risk Factors

An investment in our securities involves a high degree of risk. See “Risk Factors” beginning on page 6 of this prospectus and the other information included and incorporated by reference in this prospectus for a discussion of the risk factors you should carefully consider before deciding to invest in our securities.

National Securities Exchange Listing

Our common stock is listed on The Nasdaq Capital Market under the symbol “SONN.” There is no established public trading market for the pre-funded warrants or common warrants, and we do not expect a market to develop. In addition, we do not intend to apply to list the pre-funded warrants or common warrants on any national securities exchange or other nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants or common warrants will be limited.

(1) The number of shares of our common stock that will be outstanding immediately after this offering is based on 8,554,983 shares of common stock outstanding as of February 1, 2023, and assumes the sale and issuance by us of 11,664,888 shares of common stock and pre-funded warrants to purchase 2,224,000 shares of common stock in this offering and excludes:

- 99,104 shares of common stock underlying restricted stock units outstanding as of February 1, 2023 (of which 46,113 restricted stock units were vested but not yet settled as of such date);
- 121,366 shares of common stock subject to restricted stock awards granted as of February 1, 2023 but not yet issued;
- 318,561 shares of common stock reserved for future issuance under the 2020 Omnibus Equity Incentive Plan as of February 1, 2023;
- 3,966,072 shares of common stock issuable upon the exercise of warrants outstanding as of February 1, 2023, with a weighted average exercise price of \$18.59 per share;
- 2,224,000 shares of common stock issuable upon the exercise of the pre-funded warrants issued in this offering;
- 27,777,776 shares of common stock issuable upon the exercise of the common warrants issued in this offering; and
- 972,222 shares of common stock issuable upon the exercise of the underwriter warrants issued in this offering.

Unless otherwise indicated, this prospectus reflects and assumes no issuances or exercises of any other outstanding shares, options or warrants after February 1, 2023.

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RISK FACTORS

Investing in our securities involves a high degree of risk. We urge you to carefully consider all of the information contained in this prospectus and other information which may be incorporated by reference in this prospectus as provided under “Information Incorporated by Reference.” In particular, you should consider the risk factors below, together with those under the heading “Risk Factors” in our most recent Annual Report on Form 10-K, which is incorporated by reference into this prospectus, as those risk factors are amended or supplemented by our subsequent filings with the SEC. These risks and uncertainties are not the only risks and uncertainties we face. Additional risks and uncertainties not currently known to us, or that we currently view as immaterial, may also impair our business. If any of the risks or uncertainties described below or in our SEC filings or any additional risks and uncertainties actually occur, our business, financial condition, results of operations and cash flow could be materially and adversely affected. As a result, you could lose all or part of your investment.

RISKS RELATED TO THIS OFFERING

If you purchase shares of common stock in this offering, you will experience immediate and substantial dilution in your investment. You will experience further dilution if we issue additional equity or equity-linked securities in the future.

Because the price per share of our common stock being offered is substantially higher than the pro forma as adjusted net tangible book value per share of our common stock, you will suffer immediate and substantial dilution with respect to the net tangible book value of the common stock you purchase in this offering. Based on the combined public offering price of \$1.08 per share of common stock and accompanying common warrant and \$1.0799 per pre-funded warrant and accompanying common warrant being sold in this offering, and assuming that all of the pre-funded warrants to purchase 2,224,000 shares of our common stock were immediately exercised for cash at an exercise price of \$0.0001 per share, and our pro forma as adjusted net tangible book value as of September 30, 2022 of \$0.74 per share, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of \$0.34 per share with respect to the pro forma as adjusted net tangible book value of the common stock. See the section entitled “Dilution” for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

If we issue additional shares of common stock, or securities convertible into or exchangeable or exercisable for shares of common stock, our stockholders, including investors who purchase shares of common stock and/or pre-funded warrants and accompanying common warrants in this offering, will experience additional dilution, and any such issuances may result in downward pressure on the price of our common stock. We also cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders.

Future sales of substantial amounts of our common stock or securities convertible into or exchangeable or exercisable for shares of common stock, either by us or by our existing stockholders, or the possibility that such sales could occur, could adversely affect the market price of our common stock.

Future sales in the public market of shares of our common stock or securities convertible into or exchangeable or exercisable for shares of common stock, including shares referred to in the foregoing risk factor, shares held by our existing stockholders or shares issued upon exercise of our outstanding stock options or warrants, or the perception by the market that these sales could occur, could lower the market price of our common stock or make it difficult for us to raise additional capital.

There is no public market for the pre-funded warrants or common warrants being offered in this offering.

There is no established public trading market for the pre-funded warrants or common warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the pre-funded warrants or common warrants on any securities exchange or nationally recognized trading system, including The Nasdaq Capital Market. Without an active market, the liquidity of the pre-funded warrants and common warrants will be limited.

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Holders of pre-funded warrants and common warrants purchased in this offering will have no rights as common stockholders until such holders exercise such warrants and acquire our common stock.

Until holders of pre-funded warrants or common warrants acquire shares of our common stock upon exercise of such warrants, holders of pre-funded warrants or common warrants will have no rights with respect to the shares of our common stock underlying such warrants. Upon exercise of the pre-funded warrants or common warrants, the holders will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

We are not currently in compliance with the continued listing requirements for the Nasdaq Capital Market. If we do not regain compliance and continue to meet the continued listing requirements, our common stock may be delisted from the Nasdaq Capital Market, which could affect the market price and liquidity for our common stock and reduce our ability to raise additional capital.

As previously announced, on August 22, 2022, the Nasdaq Listing Qualifications staff (the “Staff”) notified us that we no longer complied with Nasdaq Listing Rule 5550(b)(1) (the “Rule”). Under the Rule, companies listed on The Nasdaq Capital Market must maintain stockholders’ equity of at least \$2,500,000 (the “Stockholders’ Equity Requirement”). In our Quarterly Report on Form 10-Q for the quarter ended June 30, 2022, we reported stockholders’ equity of \$764,205, which was below the Stockholders’ Equity Requirement for continued listing. Additionally, we did not meet either of the alternative Nasdaq continued listing standards under the Nasdaq Listing Rules, market value of listed securities of at least \$35 million, or net income of \$500,000 from continuing operations in the most recently completed fiscal year, or in two of the three most recently completed fiscal years.

On October 6, 2022, we submitted a plan to the Staff to regain compliance with the Stockholders’ Equity Requirement and on October 13, 2022, the Staff notified us (the “Letter”) that we were granted an extension until February 20, 2023, to demonstrate compliance with Listing Rule 5550(b)(1) to meet the continued listing requirements of The Nasdaq Capital Market, conditioned upon achievement of certain milestones included in a plan of compliance previously submitted to Nasdaq, including a plan to raise additional capital. If we are unable to demonstrate compliance by February 20, 2023, we would be subject to delisting, but would have the right under Nasdaq rules to appeal any delist determination to the Nasdaq Hearing Panel and be able to present to a plan of compliance.

We intend to regain compliance with the applicable continued listing requirements of The Nasdaq Capital Market prior to the end of the compliance period set forth in the Letter, including through the consummation of this offering. However, until Nasdaq has reached a final determination that we have regained compliance with all of the applicable continued listing requirements, there can be no assurances regarding the continued listing of our common stock on Nasdaq. The delisting of our common stock from Nasdaq would have a material adverse effect on our access to capital markets, and any limitation on market liquidity or reduction in the price of its common stock as a result of that delisting would adversely affect our ability to raise capital on terms acceptable to us, if at all.

If we fail to regain compliance with the Stockholders’ Equity Requirement or to meet the other applicable continued listing requirements for the Nasdaq Capital Market in the future and Nasdaq determines to delist our common stock, the delisting could adversely affect the market price and liquidity of our common stock and reduce our ability to raise additional capital. In addition, if our common stock is delisted from Nasdaq and the trading price remains below \$5.00 per share, trading in our common stock might also become subject to the requirements of certain rules promulgated under the Exchange Act, which require additional disclosure by broker-dealers in connection with any trade involving a stock defined as a “penny stock” (generally, any equity security not listed on a national securities exchange or quoted on Nasdaq that has a market price of less than \$5.00 per share, subject to certain exceptions).

We will have broad discretion in the use of our existing cash and cash equivalents, including the proceeds from this offering, and may invest or spend our cash in ways with which you do not agree and in ways that may not increase the value of your investment.

We will have broad discretion over the use of our cash and cash equivalents, including the proceeds from this offering. You may not agree with our decisions, and our use of cash may not yield any return on your investment. We intend to use the net proceeds from this offering for research and development, including clinical trials, working capital and general corporate purposes. Our failure to apply the net proceeds from this offering effectively could compromise our ability to pursue our growth strategy and we might not be able to yield a significant return, if any, on our investment of these net proceeds. You will not have the opportunity to influence our decisions on how to use our net proceeds from this offering.

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USE OF PROCEEDS

We estimate that we will receive net proceeds of approximately \$13.5 million from the sale of the securities offered by us in this offering, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, excluding the proceeds, if any, from the exercise of the pre-funded warrants and the common warrants issued in this offering.

We currently intend to use the net proceeds from this offering for research and development, including clinical trials, working capital and general corporate purposes. See “Risk Factors” for a discussion of certain risks that may affect our intended use of the net proceeds from this offering.

Our expected use of net proceeds from this offering represents our current intentions based upon our present plans and business condition. As of the date of this prospectus, we cannot currently allocate specific percentages of the net proceeds that we may use for the purposes specified above, and we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering, or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual use of the net proceeds will vary depending on numerous factors, including our ability to obtain additional financing, the progress, cost and results of our preclinical and clinical development programs, and whether we are able to enter into future licensing or collaboration arrangements.

Pending the use of the net proceeds from this offering, we intend to invest the net proceeds in investment-grade, interest-bearing instruments, certificates of deposit or direct or guaranteed obligations of the United States.

DILUTION

If you invest in our securities, your ownership interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the as pro forma adjusted net tangible book value per share of our common stock immediately after the closing of this offering.

Our historical net tangible book value (deficit) as of September 30, 2022 was \$(2.5) million, or \$(0.46) per share of common stock. Our historical net tangible book value (deficit) is the amount of our total tangible assets less our liabilities. Historical net tangible book value (deficit) per common share is our historical net tangible book value (deficit) divided by the number of shares of common stock outstanding as of September 30, 2022.

Our pro forma net tangible book value as of September 30, 2022 was \$3.0 million, or \$0.35 per share of common stock. Pro forma net tangible book value gives effect to the issuance and sale of an aggregate of 3,012,816 shares of our common stock that were sold from October 1, 2022 through January 11, 2023 for net proceeds of \$5.5 million under our ATM offering program.

After giving effect to the sale of 11,664,888 shares of common stock and pre-funded warrants to purchase up to 2,224,000 shares of common stock in this offering at the public offering price of \$1.08 per share of common stock and accompanying common warrant, and \$1.0799 per pre-funded warrant and accompanying common warrant, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, excluding the proceeds, if any, from the exercise of the common warrants issued in this offering, and assuming the immediate full exercise for cash of the pre-funded warrants sold in this offering at an exercise price of \$0.0001 per share, our pro forma as adjusted net tangible book value as of September 30, 2022 would be \$16.5 million, or \$0.74 per share of common stock. This amount represents an immediate increase in pro forma net tangible book value of \$0.39 per share to our existing stockholders and an immediate dilution of \$0.34 per share to investors participating in this offering. We determine dilution per share to investors participating in this offering by subtracting pro forma as adjusted net tangible book value per share after this offering from the combined public offering price per share paid by investors participating in this offering.

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The following table illustrates this dilution on a per share basis to new investors:

Combined public offering price per share and accompanying common warrant		\$	1.08
Historical net tangible book value (deficit) per share as of September 30, 2022	\$	(0.46)	
Increase in historical net tangible book value per share attributable to ATM		0.81	
Pro forma net tangible book value per share as of September 30, 2022		0.35	
Increase in pro forma net tangible book value per share attributable to this offering		0.39	
Pro forma as adjusted net tangible book value per share after giving effect to this offering			0.74
Dilution per share to new investors in this offering		\$	0.34

The table and discussion above is based on 5,544,528 shares, actual, and 8,557,344, pro forma, of common stock outstanding as of September 30, 2022 and excludes:

- 47,798 shares of common stock underlying unvested restricted stock units outstanding as of September 30, 2022;
- 172,680 shares of common stock reserved for future issuance under the 2020 Omnibus Equity Incentive Plan as of September 30, 2022;
- 3,975,349 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2022, with a weighted average exercise price of \$19.20 per share;
- 27,777,776 shares of common stock issuable upon the exercise of the common warrants issued in this offering; and
- 972,222 shares of common stock issuable upon the exercise of the underwriter warrants issued in this offering.

Except as indicated otherwise, the discussion and table above assume no exercise of common warrants accompanying the shares of common stock and pre-funded warrants sold in this offering.

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DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of:

- 125,000,000 shares of common stock, par value \$0.0001 per share; and
- 5,000,000 shares of preferred stock, par value \$0.0001 per share, of which, as of the date of this prospectus, none of which shares have been designated.

As of close of business on February 1, 2023, 8,554,983 shares of common stock were issued and outstanding and no shares of preferred stock were issued and outstanding.

The additional shares of our authorized stock available for issuance may be issued at times and under circumstances so as to have a dilutive effect on earnings per share and on the equity ownership of the holders of our common stock. The ability of our board of directors to issue additional shares of stock could enhance the board's ability

to negotiate on behalf of the stockholders in a takeover situation but could also be used by the board to make a change-in-control more difficult, thereby denying stockholders the potential to sell their shares at a premium and entrenching current management. The following description is a summary of the material provisions of our capital stock. You should refer to our Certificate of Incorporation, as amended (the "Certificate of Incorporation") and Amended and Restated Bylaws (the "Bylaws"), both of which are on file with the SEC as exhibits to previous SEC filings, for additional information. The summary below is qualified by provisions of applicable law.

Common Stock

Holders of our common stock are each entitled to cast one vote for each share held of record on all matters presented to stockholders. Cumulative voting is not allowed; the holders of a majority of our outstanding shares of common stock may elect all directors. Holders of our common stock are entitled to receive such dividends as may be declared by our board out of funds legally available and, in the event of liquidation, to share pro rata in any distribution of our assets after payment of liabilities. Our directors are not obligated to declare a dividend. It is not anticipated that we will pay dividends in the foreseeable future. Holders of our do not have preemptive rights to subscribe to any additional shares we may issue in the future. There are no conversion, redemption, sinking fund or similar provisions regarding the common stock. All outstanding shares of common stock are fully paid and nonassessable.

The rights, preferences and privileges of holders of common stock are subject to the rights of the holders of any outstanding shares of preferred stock.

Preferred Stock

We are authorized to issue up to 5,000,000 shares of preferred stock, all of which are undesignated. Our board of directors has the authority to issue preferred stock in one or more classes or series and to fix the designations, powers, preferences and rights, and the qualifications, limitations or restrictions thereof, including dividend rights, conversion right, voting rights, terms of redemption, liquidation preferences and the number of shares constituting any class or series, without further vote or action by the stockholders. Although we have no present plans to issue any other shares of preferred stock, the issuance of shares of preferred stock, or the issuance of rights to purchase such shares, could decrease the amount of earnings and assets available for distribution to the holders of common stock, could adversely affect the rights and powers, including voting rights, of the common stock, and could have the effect of delaying, deterring or preventing a change of control of us or an unsolicited acquisition proposal. The preferred stock may provide for an adjustment of the conversion price in the event of an issuance or deemed issuance at a price less than the applicable conversion price, subject to certain exceptions.

If we offer a specific series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the prospectus supplement for such offering and will file a copy of the certificate establishing the terms of the preferred stock with the SEC. To the extent required, this description will include:

- the title and stated value;
- the number of shares offered, the liquidation preference per share and the purchase price;

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- the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption, if applicable;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price (or how it will be calculated) and conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price (or how it will be calculated) and exchange period;
- voting rights, if any, of the preferred stock;
- a discussion of any material and/or special U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs; and
- any material limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs.

Anti-takeover Effects of Delaware Law and our Certificate of Incorporation and Bylaws

Our Certificate of Incorporation and Bylaws contain provisions that could have the effect of discouraging potential acquisition proposals or tender offers or delaying or preventing a change of control. These provisions are as follows:

- they provide that special meetings of stockholders may be called by the President, the board of directors or at the request by stockholders of record owning at least thirty-three and one-third (33 1/3%) percent of the issued and outstanding voting shares of our common stock;
- they do not include a provision for cumulative voting in the election of directors. Under cumulative voting, a minority stockholder holding a sufficient number of shares may be able to ensure the election of one or more directors. The absence of cumulative voting may have the effect of limiting the ability of minority stockholders to effect changes in our board of directors; and
- they allow us to issue, without stockholder approval, up to 5,000,000 shares of preferred stock that could adversely affect the rights and powers of the holders of our common stock.

We are subject to the provisions of Section 203 of the Delaware General Corporation Law, an anti-takeover law. Subject to certain exceptions, the statute prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder unless:

- prior to such date, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least eighty-five percent 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned (1) by persons who are directors and also officers and (2) by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least sixty-six and two-thirds percent (66 2/3%) of the outstanding voting stock that is not owned by the interested stockholder.

Generally, for purposes of Section 203, a “business combination” includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns or, within three (3) years prior to the determination of interested stockholder status, owned fifteen percent (15%) or more of a corporation’s outstanding voting securities.

Potential Effects of Authorized but Unissued Stock

We have shares of common stock and preferred stock available for future issuance without stockholder approval. We may utilize these additional shares for a variety of corporate purposes, including future public offerings to raise additional capital, to facilitate corporate acquisitions or payment as a dividend on the capital stock.

The existence of unissued and unreserved common stock and preferred stock may enable our board of directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could render more difficult or discourage a third-party attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, thereby protecting the continuity of our management. In addition, the board of directors has the discretion to determine designations, rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences of each series of preferred stock, all to the fullest extent permissible under the DGCL and subject to any limitations set forth in our Certificate of Incorporation. The purpose of authorizing the board of directors to issue preferred stock and to determine the rights and preferences applicable to such preferred stock is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing desirable flexibility in connection with possible financings, acquisitions and other corporate purposes, could have the effect of making it more difficult for a third-party to acquire, or could discourage a third-party from acquiring, a majority of our outstanding voting stock.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Securities Transfer Corporation. The transfer agent address is Securities Transfer Corporation, 2901 N Dallas Parkway, Suite 380, Plano, TX 75093, (469) 633-0101.

DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering (i) 11,664,888 shares of our common stock, (ii) pre-funded warrants to purchase 2,224,000 shares of our common stock and (iii) common warrants to purchase up to an aggregate of 27,777,776 shares of our common stock. Each share of common stock and pre-funded warrant is being sold together with a common warrant to purchase two shares of our common stock. The shares of common stock or pre-funded warrants and accompanying common warrants will be issued separately. We are also registering the shares of common stock issuable from time to time upon exercise of the pre-funded warrants and common warrants offered hereby.

Common Stock

The material terms and provisions of our common stock are described under the caption “Description of Capital Stock” in this prospectus.

Pre-Funded Warrants

The following summary of certain terms and provisions of pre-funded warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the pre-funded warrant, the form of which will be filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of pre-funded warrant for a complete description of the terms and conditions of the pre-funded warrants.

Duration and Exercise Price. Each pre-funded warrant offered hereby will have an initial exercise price per share equal to \$0.0001. The pre-funded warrants will be immediately exercisable and may be exercised at any time until the pre-funded warrants are exercised in full. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. The pre-funded warrants will be issued separately from the accompanying common warrants and may be transferred separately immediately thereafter.

Exercisability. The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). Purchasers of the pre-funded warrants in this offering may elect to deliver their exercise notice following the pricing of the offering and prior to the issuance of the pre-funded warrants at closing to have their pre-funded warrants exercised immediately upon issuance and receive shares of common stock underlying the pre-funded warrants upon closing of this offering. A holder (together with its affiliates) may not exercise any portion of the pre-funded warrant to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise, except that upon at least 61 days’ prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder’s pre-funded warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. Purchasers of pre-funded warrants in this offering may also elect prior to the issuance of the pre-funded warrants to have the initial exercise limitation set at 9.99% of our outstanding common stock. No fractional shares of common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will round down to the next whole share.

Cashless Exercise. If, at the time a holder exercises its pre-funded warrants, a registration statement registering the issuance of the shares of common stock underlying the pre-funded warrants under the Securities Act is not then effective or available, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants.

Transferability. Subject to applicable laws, a pre-funded warrant may be transferred at the option of the holder upon surrender of the pre-funded warrant to us together with the appropriate instruments of transfer.

Exchange Listing. There is no trading market available for the pre-funded warrants on any securities exchange or nationally recognized trading system. We do not intend to list the pre-funded warrants on any securities exchange or nationally recognized trading system.

Right as a Stockholder. Except as otherwise provided in the pre-funded warrants or by virtue of such holder’s ownership of shares of our common stock, the holders of the pre-funded warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their pre-funded warrants.

Fundamental Transaction. In the event of a fundamental transaction, as described in the pre-funded warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, the holders of the pre-funded warrants will be entitled to receive upon exercise of the pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction.

Common Warrants

The following summary of certain terms and provisions of common warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the common warrants, the form of which will be filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of common warrants for a complete description of the terms and conditions of the common warrants.

Duration and Exercise Price. Each common warrant offered hereby will have an initial exercise price per share equal to \$1.08. The common warrants will be immediately exercisable and will expire on the fifth anniversary of the original issuance date. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. The common warrants will be issued separately from the common stock (or pre-funded warrants) and may be transferred separately immediately thereafter. A common warrant to purchase two shares of our common stock will be issued for every share of common stock (or pre-funded warrant to purchase a share of common stock) purchased in this offering.

Exercisability. The common warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the common warrant to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's common warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the common warrants. No fractional shares of common stock will be issued in connection with the exercise of a common warrant. In lieu of fractional shares, we will round down to the next whole share.

Cashless Exercise. If, at the time a holder exercises its common warrants, a registration statement registering the issuance of the shares of common stock underlying the common warrants under the Securities Act is not then effective or available and an exemption from registration under the Securities Act is not available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the common warrants.

Alternative Cashless Exercise. On or after the earlier of the (i) thirty (30) day anniversary of the date of the underwriting agreement and (ii) the date on which the aggregate composite trading volume of the common stock as reported by Bloomberg LP beginning on the date of the underwriting agreement for this offering exceeds 50,000,000 shares, a holder of common warrants may also provide notice and elect an "alternative cashless exercise" pursuant to which they would receive an aggregate number of shares equal to the product of (x) the aggregate number of shares of common stock that would be issuable upon a cash exercise and (y) 0.50.

Transferability. Subject to applicable laws, a common warrant may be transferred at the option of the holder upon surrender of the common warrant to us together with the appropriate instruments of transfer.

Exchange Listing. There is no established public trading market for the common warrants, and we do not expect a market to develop. In addition, we do not intend to list the common warrants on any securities exchange or nationally recognized trading system. Without an active trading market, the liquidity of the common warrants will be limited.

Right as a Stockholder. Except as otherwise provided in the common warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the common warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their common warrants.

Fundamental Transaction. In the event of a fundamental transaction, as described in the form of common warrant, and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, the holders of the common warrants will be entitled to receive upon exercise of the common warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the common warrants immediately prior to such fundamental transaction. In the event of a Change of Control (as defined in each common warrant) approved by our Board of Directors, the holders of the common warrants have the right to require us or a successor entity to redeem the common warrants for cash in the amount of the Black-Scholes Value (as defined in each common warrant) of the unexercised portion of the common warrants on the date of the consummation of the Change of Control. In the event of a Change of Control which is not approved by our Board of Directors, the holders of the common warrants have the right to require us or a successor entity to redeem the common warrants for the consideration paid in the Change of Control in the amount of the Black-Scholes Value of the unexercised portion of the common warrants on the date of the consummation of the Change of Control.

UNDERWRITING

We entered into an underwriting agreement with Chardan Capital Markets, LLC ("Chardan") on February 8, 2023, as representative of the several underwriters, relating to this offering. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters and each of the underwriters has agreed to purchase, severally and not jointly, the number of shares, pre-funded warrants and common warrants set forth opposite its name in the following table:

	Number of Shares of Common Stock	Number of Pre-Funded Warrants	Number of Common Warrants(1)
Chardan Capital Markets, LLC	7,582,177	1,445,600	9,027,777
EF Hutton, division of Benchmark Investments, LLC	4,082,711	778,400	4,861,111
Total	11,664,888	2,224,000	13,888,888

(1) Each share of common stock and pre-funded warrant to purchase one share of common stock is accompanied by a warrant to purchase two shares of our common stock.

The underwriters have agreed to purchase all of the shares of common stock, pre-funded warrants and accompanying common warrants offered by us, if any are purchased. 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 obligations of the underwriters 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.

The underwriters have advised us that they propose initially to offer the shares of common stock, pre-funded warrants and accompanying common warrants to purchase shares of common stock to the public at the public offering price set forth on the cover page of this prospectus. After the shares of common stock, pre-funded warrants and accompanying common warrants are released for sale to the public, the underwriters may change the offering price, the concession, and other selling terms at various times.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act and to contribute to payments the underwriters may be required to make in respect thereof.

The underwriters are offering the securities in this offering 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 specified in the underwriting agreement. The underwriters reserve the right to withdraw, cancel or modify orders to the public, and to reject orders in whole or in part.

Discounts, Commissions and Reimbursement

The following table provides information regarding the amount of the discounts and commissions to be paid to the underwriters by us.

	Per Share and Accompanying Common Warrant	Per Pre-Funded Warrant and Accompanying Common Warrant	Total(2)
Public offering price	\$ 1.08	\$ 1.0799	14,999,777
Underwriting discounts and commissions (1)	\$ 0.0756	\$ 0.0756	1,050,000
Proceeds to us, before expenses	\$ 1.0044	\$ 1.0043	13,949,777

(1) We have agreed to pay the underwriters a commission of 7% of the gross proceeds of this offering.

(2) Reflects the issuance and sale of 11,664,888 shares of our common stock and pre-funded warrants to purchase 2,224,000 and accompanying common warrants.

We estimate that our total expenses of the offering, excluding the estimated underwriting discounts and commissions, will be approximately \$405,000, which includes the fees and expenses for which we have agreed to reimburse the underwriters, provided that any such fees and expenses will not exceed an aggregate of \$75,000.

Underwriter Warrants

We have agreed to issue to the underwriters warrants (the "underwriter warrants") to purchase up to 972,222 shares of common stock (representing 7% of the aggregate number of shares sold in this offering and including the number of shares of common stock underlying the pre-funded warrants), at an exercise price of \$1.35 per share (representing 125% of the price at which a share of common stock and accompanying common warrant are sold to the public in this offering). The underwriter warrants will be exercisable immediately and for five years from the date of commencement of sales in this offering. The issuance of the underwriter warrants and the shares issuable upon exercise of the underwriter warrants are registered on the registration statement of which this prospectus forms a part. The underwriter warrants shall not be redeemable. The shares of common stock issuable upon exercise of the underwriter warrants may not be sold, transferred, assigned, pledged, or hypothecated, or be the subject of any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the securities by any person for a period of 180 days following the commencement of sales under the registration statement of which this prospectus forms a part, except that they may be assigned, in whole or in part, to any officer or partner of the underwriters. The underwriter warrants may be exercised as to all or a lesser number of shares of common stock for a period of five (5) years after the commencement of sales under the registration statement of which this prospectus forms a part, will provide for cashless exercise in the event an effective registration statement for the shares of common stock issuable upon exercise of the underwriter warrants is not available. The underwriter warrants shall further provide for anti-dilution protection (adjustment in the number and price of such warrants and the shares issuable upon exercise of such warrants) resulting from corporate events (which would include dividends, reorganizations, mergers, etc.) when the public stockholders have been proportionally affected and otherwise in compliance with FINRA Rule 5110(f)(2)(G)(vi).

Lock-Up Agreements

We, our officers and directors have agreed to a 90-day "lock-up" with respect to shares of our common stock and other of our securities that they beneficially own, including securities that are convertible into shares of common stock and securities that are exchangeable or exercisable for shares of common stock. This means that, subject to certain exceptions, for a period of 90 days following the date of this prospectus, we and such persons may not offer, sell, pledge or otherwise dispose of these securities without the prior written consent of Chardan.

Leak-Out Provision

Certain investors in this offering may enter into a Leak-Out Agreement with the Company (each, a "Leak-Out Agreement" and collectively, the "Leak-Out Agreements") wherein each investor who is a party to a Leak-Out Agreement (together with certain of its affiliates) will agree not to sell, dispose or otherwise transfer, directly or indirectly (including, without limitation, any sales, short sales, swaps or any derivative transactions that would be equivalent to any sales or short positions), on any trading day from the date of the Leak-Out Agreements and ending at 4:00 p.m. (New York City time) on March 24, 2023, shares of common stock, or shares of common stock underlying common stock equivalents held by such investor on, or acquired by such investor following, the date of the Leak-Out Agreements, in an amount more than its pro rata portion of 25% of the cumulative trading volume of the common stock (which cumulative trading volume shall include pre-market, market and post-market trading volume for such date), subject to certain exceptions. This restriction will not apply to any actual "long" (as defined in Regulation SHO promulgated under the Securities Exchange Act of 1934, as amended) sales by such investor (together with certain of its affiliates) (i) at a price per share of more than \$1.00 (in each case, as adjusted for stock splits, stock dividends, stock combinations, recapitalizations or other similar events) and (ii) purchased in open market transactions by such investor (together with certain of its affiliates) during the restricted period. Further, this restriction will not apply to sales or transfers of any such shares of common stock in transactions which do not need to be reported on the Nasdaq consolidated tape so long as the purchaser or transferee executes and delivers a Leak-Out Agreement. After such sale or transfer, future sales of the securities covered by the Leak-Out Agreement by the original owner (together with certain of its affiliates) and the purchaser or transferee will be aggregated to determine compliance with the terms of the Leak-Out Agreements.

Tail Period

In the event that this offering is not consummated as contemplated herein, the underwriter will be entitled to receive a cash fee equal to (a) seven percent (7.0%) of the gross proceeds received by us from any financing or capital raising transaction and (b) warrants to purchase common stock equal to seven percent (7%) of the number of shares of common stock sold in a subsequent offering, to the extent that such proceeds are provided to us by any investor directly introduced by the underwriters to us during the period beginning on January 13, 2023 and ending on May 13, 2023 or the earlier termination of the engagement (the "Engagement Period") and transaction is consummated at any time during the Engagement Period or within the six-month month period following the Engagement Period.

Electronic Offer, Sale, and Distribution of Securities

A prospectus in electronic format may be made available on the websites maintained by the underwriter. The prospectus in electronic format will be identical to the paper version of such prospectus. The underwriter may agree to allocate a number of shares to underwriter and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriter 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 list the shares of common stock offered on the Nasdaq Capital Market under the symbol “SONN”. We do not intend to apply to list the pre-funded warrants or common warrants on any national securities exchange or other nationally recognized trading system.

Stabilization

In connection with this offering, the underwriters 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 involve 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, the underwriters 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.

Certain Relationships

The underwriters and their affiliates have provided, or may in the future, from time to time, engage in transactions with and perform services for us in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses. In the ordinary course of their various business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments of our Company. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to “incorporate by reference” information into this document, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information.

We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act made subsequent to the date of this prospectus until the termination of the offering of the securities described in this prospectus (other than information in such filings that was “furnished,” under applicable SEC rules, rather than “filed”). We incorporate by reference the following documents or information that we have filed with the SEC:

- our Annual Report on [Form 10-K](#) for the year ended September 30, 2022, filed with the SEC on December 15, 2022; and
- our Current Reports on Form 8-K filed with the SEC on [October 4, 2022](#), [October 17, 2022](#), [October 31, 2022](#), [November 2, 2022](#), [November 9, 2022](#), [January 9, 2023](#) and [January 19, 2023](#) (other than any portions thereof deemed furnished and not filed).

Any statement contained in this prospectus or contained in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded to the extent that a statement contained in this prospectus or any subsequently filed supplement to this prospectus, or document deemed to be incorporated by reference into this prospectus, modifies or supersedes such statement. Any statements so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You may request a copy of these filings at no cost, by writing or telephoning us at the following address:

You may also access these filings on our website at www.sonnetbio.com. You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized anyone else to provide different or additional information on our behalf. An offer of these securities is not being made in any jurisdiction where the offer or sale is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date of those respective documents.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You should rely only on the information contained in this prospectus or incorporated by reference into this prospectus. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any jurisdiction where the offer is not permitted. You should assume that the information contained in this prospectus, or any document incorporated by reference in this prospectus, is accurate only as of the date of those respective documents, regardless of the time of delivery of this prospectus or any sale of our securities.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public from commercial document retrieval services and over the Internet at the SEC's website at <http://www.sec.gov>.

We maintain a website at www.sonnetbio.com. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished 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 into, and is not part of, this prospectus.

LEGAL MATTERS

The validity of the common stock and certain other legal matters will be passed upon for us by Lowenstein Sandler LLP, New York, New York. Lucosky Brookman LLP, Woodbridge, New Jersey, has acted as counsel to the underwriters in connection with this offering.

EXPERTS

The consolidated financial statements of Sonnet BioTherapeutics Holdings, Inc. as of September 30, 2022 and 2021 and for the years then ended have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing. The audit report covering the September 30, 2022 consolidated financial statements contains an explanatory paragraph that states that Sonnet BioTherapeutics Holdings, Inc. has incurred recurring losses and negative cash flows from operations since inception and will require substantial additional financing to continue to fund its research and development activities that raise substantial doubt about its ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.



11,664,888 Shares of Common Stock
Pre-Funded Warrants to Purchase up to 2,224,000 Shares of Common Stock
Common Warrants to Purchase up to 27,777,776 Shares of Common Stock
Shares of Common Stock underlying the Pre-Funded Warrants and Common Warrants

PROSPECTUS

Joint Book-Running Managers

Chardan

EF HUTTON
division of Benchmark Investments, LLC

The date of this prospectus is February 8, 2023.
