

---

---

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

---

**FORM S-3  
REGISTRATION STATEMENT**  
*Under  
The Securities Act of 1933*

---

**SOLENO THERAPEUTICS, INC.**  
(Name of registrant in its charter)

---

**Delaware**  
(State of  
Incorporation)

**3841**  
(Primary Standard Industrial  
Classification Code Number)

**77-0523891**  
(I.R.S. Employer  
Identification Number)

**203 Redwood Shores Pkwy, Suite 500  
Redwood City, CA 94065  
(650) 213-8444**

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

---

**Anish Bhatnagar  
Chief Executive Officer  
Solen Therapeutics, Inc.  
203 Redwood Shores Pkwy, Suite 500  
Redwood City, CA 94065  
(650) 213-8444**

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

---

**Copies to:**

**Elton Satusky  
Jesse Schumaker  
Wilson Sonsini Goodrich & Rosati,  
Professional Corporation  
650 Page Mill Road  
Palo Alto, CA 94304  
(650) 493-9300**

---

**Approximate date of proposed sale to the public:** From time to time after this Registration Statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

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, other than securities offered only in connection with dividend or interest reinvestment plans, 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, 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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company, or an emerging growth company. See 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 the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

---

---

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

**SUBJECT TO COMPLETION, DATED October 20, 2023**

**PROSPECTUS**



# **SOLENO THERAPEUTICS, INC.**

## **Up to 3,000,000 Shares of Common Stock Offered by the Selling Stockholders**

---

This prospectus relates to the resale by the selling stockholders identified in this prospectus of up to an aggregate of 3,000,000 shares of our common stock (the Shares). As of the date of this prospectus, 1,825,000 of the Shares were currently issued and outstanding (the Outstanding Shares) and 1,175,000 of the Shares (the Warrant Shares) consisted of Shares that may be purchased upon exercise of certain outstanding pre-funded warrants (the Warrants).

We sold the Outstanding Shares and Warrants to the selling stockholders in a private placement on October 2, 2023 (the Concurrent Private Placement Offering), pursuant to a Securities Purchase Agreement dated September 28, 2023 (the Purchase Agreement). See “Selling Stockholders” for a description of this agreement and for additional information regarding the selling stockholders. The prices at which the selling stockholders may sell the Shares will be determined by the prevailing market price for the Shares or in negotiated transactions.

We are not selling any securities under this prospectus and will not receive any of the proceeds from the sale of Shares by the selling stockholders or their permitted transferees.

The selling stockholders may sell the Shares described in this prospectus in a number of different ways and at varying prices. See “Plan of Distribution” for more information about how the selling stockholders may sell the Shares being registered pursuant to this prospectus.

The selling stockholders will pay all brokerage fees and commissions and similar expenses. We will pay certain expenses (except brokerage fees and commissions and similar expenses) incurred in registering the Shares, including legal and accounting fees. See “Plan of Distribution” for additional information.

Our common stock is listed on the NASDAQ Capital Market under the ticker symbol “SLNO.” On October 19, 2023, the last reported sale price per share of our common stock was \$23.83 per share.

You should read this prospectus and any prospectus supplement, together with additional information described under the heading “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](#)” on page 4 of this prospectus.**

**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.**

---

**This prospectus is dated \_\_\_\_\_, 2023.**

## TABLE OF CONTENTS

	<b>Page</b>
<a href="#">About this Prospectus</a>	i
<a href="#">Prospectus Summary</a>	1
<a href="#">Risk Factors</a>	4
<a href="#">Forward-Looking Statements</a>	5
<a href="#">Use of Proceeds</a>	7
<a href="#">Determination of Offering Price</a>	7
<a href="#">Market Information for our Common Stock and Dividend Policy</a>	7
<a href="#">Description of Securities</a>	8
<a href="#">Selling Stockholders</a>	11
<a href="#">Plan of Distribution</a>	13
<a href="#">Legal Matters</a>	18
<a href="#">Experts</a>	18
<a href="#">Where You Can Find More Information</a>	19
<a href="#">Incorporation by Reference</a>	19

## ABOUT THIS PROSPECTUS

This prospectus forms a part of a registration statement that we have filed with the Securities and Exchange Commission (SEC) and that includes exhibits that provide more detail of the matters discussed in this prospectus. You should read this prospectus and the related exhibits filed with the SEC, together with the additional information described under the headings “Where You Can Find More Information” and “Incorporation by Reference” before making your investment decision.

We have not authorized anyone to give you any information other than in this prospectus and the information incorporated by reference herein. We take no responsibility for, and can provide no assurances as to the reliability of, any other information that others may give you. You should assume that the information in this prospectus is accurate only as of the date hereof. Our business, financial condition, results of operations and prospects may have changed since that date.

Neither we nor the selling stockholders are offering to sell or seeking offers to purchase these securities in any jurisdiction where the offer or sale is not permitted. We have not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities as to distribution of the prospectus outside of the United States.

## PROSPECTUS SUMMARY

*This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before deciding to invest in our securities, you should read this entire prospectus carefully, including the sections of this prospectus entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our financial statements and related notes contained elsewhere in this prospectus. Unless the context otherwise requires, references in this prospectus to the “Company,” “Solenio Therapeutics,” “we,” “us”, and “our” refer to Soleno Therapeutics, Inc.*

### Company Overview

We are a clinical-stage biopharmaceutical company focused on the development and commercialization of novel therapeutics for the treatment of rare diseases. Our lead drug candidate, DCCR (Diazoxide Choline) Extended-Release tablets, is a potent ATP-sensitive potassium ( $K_{ATP}$ ) channel activator. The  $K_{ATP}$  channel plays a central role in the regulation of a number of physiological processes which may otherwise be dysregulated, contributing to the pathophysiology of several diseases. In the context of the underlying genetic or structural defects in many forms of hyperphagic obesity, including Prader-Willi syndrome (PWS), these pathophysiological processes may cumulatively contribute to increases in appetite and aggressive food seeking, lack of satiety, accumulation of excess body fat and the establishment and perpetuation of the obese state.

DCCR’s unique mode of action with targets in the brain, pancreas and fat tissue has the potential to broadly impact complex diseases like PWS to reduce appetite, reduce food seeking, improve satiety, improve insulin and leptin resistance and reduce body fat. It appears that many of the problematic behaviors in conditions like PWS may have hyperphagic drive as a root cause and may therefore be improved by addressing hyperphagia. We have a Fast-Track designation for DCCR in PWS and orphan designation for the drug in the United States (U.S.) and European Union (E.U.).

DCCR has been evaluated in a Phase 3 study (C601 or DESTINY PWS), a 13-week randomized, double-blind placebo-controlled study, which completed enrollment in January 2020, with 127 randomized participants at 29 sites in the U.S. and United Kingdom (U.K.). Participants who completed treatment in DESTINY PWS and sought continued treatment with DCCR were eligible to receive DCCR in a long-term open-label safety extension study (C602). Top line results from DESTINY PWS were announced in June 2020. Although the trial did not meet its primary endpoint of change from baseline in hyperphagia, significant improvements were observed in two of three key secondary endpoints. In February 2021, we announced analysis limited to data collected before the onset of the COVID-19 pandemic. The analysis of the data through March 1, 2020 showed statistical significance in the primary, all key secondary and several other efficacy endpoints. In September 2021, we announced top line results from the interim one year data from C602 showing statistically significant reduction in hyperphagia and all other PWS behavioral parameters and statistically significant improvements compared to natural history of PWS from the PATH for PWS Study (PfPWS) over a one year treatment period. The PfPWS study is an ongoing study sponsored by the Foundation for Prader-Willi Research (FPWR) to advance the understanding of the natural history in individuals with PWS.

The FDA provided official meeting minutes from a Type C meeting in January 2022 that recommended additional controlled data be included in a New Drug Application (NDA), and indicated they were receptive to a study design involving participants currently enrolled in Study C602, our ongoing open-label extension study to generate the data necessary to support an NDA.

In March 2022, we submitted a proposal to add a randomized withdrawal period to Study C602 to obtain additional controlled data requested by the FDA to support approval of an NDA for DCCR. The randomized withdrawal (RW) period of Study C602 was a multi-center, randomized, double-blind, placebo-controlled study of DCCR in approximately 80 patients with PWS at 17 sites in the U.S. and 5 sites in the U.K. This RW period consisted only of patients currently enrolled in Study C602 and did not enroll any new patients. We announced the initiation of the RW period for Study C602 in October 2022. On September 26, 2023, we issued a press release announcing positive topline results from the RW period to Study C602. We announced that the study had met the primary endpoint and that there was a highly statistically significant difference in the change from baseline in HQ-CT Total Score for DCCR Compared to placebo ( $p=0.0022$ ). Further we announced that we intend to submit an NDA for DCCR for treatment of PWS mid-year 2024. The FDA has acknowledged that data from the study has the potential to support an NDA approval for DCCR.

Our current focus is the development of DCCR for PWS. However, other syndromes that may be similarly addressed include SH2B1 deficient obesity, more severely impacted forms of MC4R deficiency, Alström syndrome, and KSR2 deficient obesity. Another type of disease where DCCR may be efficacious is where hypoglycemia is a significant problem. Examples include hyperinsulinemic hypoglycemia and certain Glycogen Storage Diseases. We have orphan drug designation for the treatment of Glycogen Storage Disease Type 1a in the U.S.

**Corporate information**

Our principal corporate offices are located at 203 Redwood Shores Parkway, Suite 500, Redwood City, California 94065 and our telephone number is (650) 213-8444. We were incorporated in Delaware on August 25, 1999. Our internet address is [www.soleno.life](http://www.soleno.life). We make available on our website, free of charge, our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to those reports, as soon as reasonably practicable after we electronically file such materials with, or furnish it to, the Securities Exchange and Commission. Our Securities Exchange and Commission reports can be accessed through the Investor Relations section of our internet website. The information found on our internet website is not part of this or any other report we file with or furnish to the Securities Exchange and Commission.

## The Offering

<b>Common stock being offered by the selling stockholders</b>	3,000,000 shares. 1,825,000 of the Shares are currently issued and outstanding (the Outstanding Shares) and 1,175,000 of the Shares (the Warrant Shares) consist of Shares that may be purchased upon exercise of certain outstanding pre-funded warrants (the Warrants).
<b>Selling stockholders</b>	Commodore Capital Master LP, Frazier Life Sciences XI, L.P., Frazier Life Sciences X, L.P., Frazier Life Sciences Public Overage Fund, L.P., Frazier Life Sciences Public Fund, L.P., Adage Capital Partners LP, The Perceptive Life Sciences Master Fund, Ltd., Woodline Master Fund LP, Empery Asset Master, Ltd. Empery Tax Efficient, LP, Empery Tax Efficient III, LP, NCP RFM LP, Nantahala Capital Partners Limited Partnership, and Blackwell Partners LLC - Series A
<b>Common stock outstanding</b>	9,941,185 (as of June 30, 2023)
<b>Use of proceeds</b>	The selling stockholders will receive all of the proceeds from the sale of the shares offered for sale by them under this prospectus. We will not receive proceeds from the sale of the shares by the selling stockholders.
<b>NASDAQ Symbol</b>	SLNO
<b>Risk Factors</b>	Investing in our securities involves a high degree of risk. You should carefully review and consider the “Risk Factors” section of this prospectus for a discussion of factors to consider before deciding to invest in shares of our common stock.

The number of shares of our common stock that will be outstanding after this offering is based on 9,941,185 shares of our common stock outstanding as of June 30, 2023 and excludes:

- 3,450,000 shares of common stock issued in a public offering that closed on October 2, 2023 at a price of \$20.00 per share;
- 1,825,000 shares of common stock and 1,175,000 shares of common stock underlying pre-funded warrants to purchase shares of our common stock issued in the Concurrent Private Placement Offering on October 2, 2023 at a price of \$20.00 per share of common stock and \$19.99 per pre-funded warrant;
- 2,230,016 shares of common stock issuable upon exercise of stock options outstanding as of June 30, 2023 under our equity incentive plans, with a weighted-average exercise price of \$10.83 per share;
- 424,244 shares of common stock issuable upon the vesting of restricted stock units as of June 30, 2023 under our equity incentive plans;
- 77,000 shares of common stock issuable upon exercise of stock options granted after June 30, 2023 under our equity incentive plans, with a weighted-average exercise price of \$4.99 per share;
- 12,244,784 shares of common stock issued upon the exercise of warrants after June 30, 2023 and prior to October 18, 2023;
- 9,183,021 shares of common stock issuable upon exercise of outstanding warrants, with a weighted average exercise price of \$3.40 per share, as of October 18, 2023;
- 3,016,500 shares of common stock issued upon the exercise of pre-funded warrants after June 30, 2023 and prior to October 18, 2023
- 4,635,488 shares of common stock issuable upon exercise of pre-funded warrants outstanding as of October 18, 2023 with a weighted-average exercise price of \$0.01 per share; and
- 17,190 shares of common stock available for future issuance under our 2014 Equity Incentive Plan and 588,585 shares of common stock available for future issuance under our 2020 Inducement Equity Incentive Plan, as of October 18, 2023.

Except as otherwise indicated, all information in this prospectus:

- assumes no exercise of outstanding options or warrants subsequent to June 30, 2023;
- assumes no vesting of restricted stock unit awards subsequent to June 30, 2023; and
- reflects the issuance and exercise of pre-funded warrants to purchase 1,175,000 shares of common stock issued to the selling stockholders on October 2, 2023 in connection with the Concurrent Private Placement Offering, as described in this prospectus.

## **RISK FACTORS**

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described in Part I, Item 1A, Risk Factors in our most recent Annual Report on Form 10-K, together with the other information set forth in this prospectus, and in the other documents that we include or incorporate by reference into this prospectus, as updated by our Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other filings we make with the SEC, the risk factors described under the caption “Risk Factors” in any applicable prospectus supplement and any risk factors set forth in our other filings with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, before making a decision about investing in our common stock. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. If any risks actually occur, our business, financial condition and results of operations may be materially and adversely affected. In such an event, the trading price of our common stock could decline and you could lose part or all of your investment.

For more information about our SEC filings, please see “Where You Can Find More Information” and “Incorporation by Reference.”



## FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement, and the information incorporated by reference in this prospectus and any prospectus supplement include or may include “forward-looking statements” within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. Forward-looking statements are based upon current expectations that involve risks and uncertainties. Actual results may differ materially from those anticipated in these forward-looking statements. Statements that are not purely historical are forward-looking statements. Forward-looking statements are often identified by the use of words such as, but not limited to, “anticipate,” “believe,” “can,” “continue,” “could,” “estimate,” “expect,” “predict,” “intend,” “may,” “might,” “plan,” “project,” “potential,” “seek,” “should,” “target,” “will,” “would” and similar expressions or variations intended to identify forward-looking statements.

These forward-looking statements include, but are not limited to, statements concerning the following:

- the timing and the success of additional approvals of any of our products pursuant to our clinical and regulatory efforts;
- our ability to successfully build a distribution network and commercial infrastructure for our products;
- whether the results of the trials will be sufficient to support domestic or global regulatory approvals for any of our products;
- our ability to obtain and/or maintain regulatory approval of our products;
- our expectation that our existing capital resources will be sufficient to enable us to successfully meet the capital requirements for all of our current and future products;
- the benefits of the use of our products;
- our ability to successfully commercialize any products;
- the rate and degree of market acceptance of our products;
- our expectations regarding government and third-party payor coverage and reimbursement;
- our ability to manufacture our products in conformity with the applicable regulatory requirements and to scale up manufacturing of our products to commercial scale;
- our ability to compete with companies that may enter the market with products that compete with our products;
- our reliance on third parties to conduct clinical studies;
- our reliance on third-party contract manufacturers to manufacture and supply our products for us;
- our reliance on our collaboration partners’ performance over which we do not have control;
- our ability to retain and recruit key personnel, including development of a sales and marketing function;
- our ability to obtain and maintain intellectual property protection for our products;
- our estimates of our expenses, ongoing losses, future revenue, capital requirements and our needs for or ability to obtain additional financing;
- our ability to identify, develop, acquire and in-license additional products;
- our ability to successfully establish and successfully maintain appropriate collaborations and derive significant revenue from those collaborations;
- our financial performance; and
- developments and projections relating to our competitors or our industry.

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate and financial trends that we believe may affect our business, financial condition, results of operations and prospects, and these forward-looking statements are not guarantees of future performance or development. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein until after we distribute this prospectus, whether as a result of any new information, future events or otherwise.

---

## [Table of Contents](#)

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to unduly rely upon these statements.

Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section titled “Risk Factors” of any Annual Report on Form 10-K and any Quarterly Report on Form 10-Q incorporated by reference in this prospectus and in the section of any related prospectus supplement titled “Risk Factors.”

## USE OF PROCEEDS

All of the shares of common stock being offered hereby are being sold by the selling stockholders identified in this prospectus or permitted transferees. We will not receive any of the proceeds from the sale of shares of common stock by the selling stockholders or permitted transferees. We will bear the out-of-pocket costs, expenses and fees incurred in connection with the registration of the shares to be sold by the selling stockholders, including registration, listing fees, printers and accounting fees and fees and disbursements of counsel (collectively, the Registration Expenses). Other than Registration Expenses, the selling stockholders will bear any selling discounts, commissions, placement agent fees, fees or expenses of outside counsel of the selling stockholders or other similar expenses payable with respect to sales of shares.

## DETERMINATION OF OFFERING PRICE

We cannot currently determine the price or prices at which shares of our common stock may be sold by the selling stockholders under this prospectus.

## MARKET INFORMATION FOR OUR COMMON STOCK AND DIVIDEND POLICY

### Market Information

Our common stock is quoted on NASDAQ under the symbol "SLNO". On October 19, 2023, the last reported sale price for our common stock was \$23.83 per share.

### Dividend Policy

We have never declared or paid cash dividends on our common stock, and currently do not plan to declare dividends on shares of our common stock in the foreseeable future. We expect to retain our future earnings, if any, for use in the operation and expansion of our business. The payment of cash dividends in the future, if any, will be at the discretion of our board of directors and will depend upon such factors as earnings levels, capital requirements, our overall financial condition and any other factors deemed relevant by our board of directors.

## DESCRIPTION OF SECURITIES

### General

Our authorized capital stock consists of 110,000,000 shares, all with a par value of \$0.001 per share, 100,000,000 of which are designated as common stock and 10,000,000 of which are designated preferred stock.

The following description of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to our amended and restated certificate of incorporation and our amended and restated bylaws. Copies of these documents have been filed with the SEC as exhibits to our Annual Reports on Form 10-K.

### Common stock

Holders of common stock are entitled to one vote per share on matters on which our stockholders vote. There are no cumulative voting rights. Subject to any preferential dividend rights of any outstanding shares of preferred stock, holders of common stock are entitled to receive dividends, if declared by our board of directors, out of funds that we may legally use to pay dividends. If we liquidate or dissolve, holders of common stock are entitled to share ratably in our assets once our debts and any liquidation preference owed to any then-outstanding preferred stockholders are paid. Our certificate of incorporation does not provide the common stock with any redemption, conversion or preemptive rights. All shares of common stock that are outstanding as of the date of this prospectus will be fully-paid and non-assessable.

### Preferred stock

We are authorized to issue 10,000,000 shares of our preferred stock. Our board of directors has the authority, without further action by our stockholders, to issue these shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of us and may adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock on the rights of holders of common stock until the board of directors determines the specific rights attached to that preferred stock.

### Anti-takeover provisions

#### *Amended and Restated Certificate of Incorporation and Bylaws*

Our amended and restated certificate of incorporation provides for our board of directors to be divided into three classes with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the voting power of our shares of common stock outstanding will be able to elect all of our directors. The directors may be removed by the stockholders only for cause upon the vote of holders of a majority of the shares then entitled to vote at an election of directors. Furthermore, the authorized number of directors may be changed only by resolution of our board of directors, and vacancies and newly created directorships on our board of directors may, except as otherwise required by law or determined by our board, only be filled by a majority vote of the directors then serving on our board of directors, even though less than a quorum. Our amended and restated certificate of incorporation and amended and restated bylaws provide that all stockholder actions must be effected at a duly called meeting of stockholders and not by a consent in writing. A special meeting of stockholders may be called only by a majority of our whole board of directors, the chair of our board of directors, our chief executive officer or our president. Our amended and restated bylaws also provide that stockholders seeking to present proposals before a meeting of stockholders to nominate candidates for election as directors at a meeting of stockholders must provide timely advance notice in writing, and specify requirements as to the form and content of a stockholder's notice.

Our amended and restated certificate of incorporation further provides that the affirmative vote of holders of at least 66 2/3% of the voting power of all of the then outstanding shares of voting stock, voting as a single class, will be required to amend certain provisions of our certificate of incorporation, including provisions relating to the structure of our board of directors, the size of our board of directors, removal of directors, special meetings of stockholders, actions by written consent and cumulative voting. The affirmative vote of holders of at least 66 2/3% of the voting power of all of the then outstanding shares of voting stock, voting as a single class, will be required to amend or repeal our bylaws, although our bylaws may be amended by a simple majority vote of our board of directors; provided that any bylaw amendment adopted by our stockholders that specifies the votes necessary for the election of directors will not be further amended or repealed by our board of directors.

## [Table of Contents](#)

The foregoing provisions make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of our company by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change the control of our company.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage certain types of transactions that may involve an actual or threatened acquisition of our company. These provisions are also designed to reduce our vulnerability to an unsolicited acquisition proposal and to discourage certain tactics that may be used in proxy rights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of deterring hostile takeovers or delaying changes in control of our company or our management. As a consequence, these provisions also may inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts.

### ***Section 203 of the Delaware General Corporation Law***

We are subject to Section 203 of the Delaware General Corporation Law, or Section 203, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, our board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon closing of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned by: (i) persons who are directors and also officers; and (ii) 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 our board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines business combination to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of ten percent (10%) or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an “interested stockholder” as an entity or person who, together with the person’s affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

### **Limitation on Liability and Indemnification Matters**

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, and may indemnify our employees and other agents, to the fullest extent permitted by the Delaware General Corporation Law, which prohibits our amended and restated certificate of incorporation from limiting the liability of our directors for the following:

- any breach of the director's duty of loyalty to the corporation or its stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions; or
- any transaction from which the director derived an improper personal benefit.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director, then the liability of our directors will be eliminated or limited to the fullest extent permitted by Delaware law, as so amended. Our amended and restated certificate of incorporation does not eliminate a director's duty of care and in appropriate circumstances, equitable remedies, such as injunctive or other forms of non-monetary relief, remain available under Delaware law. This provision also does not affect a director's responsibilities under any other laws, such as the federal securities laws or other state or federal laws. Under our amended and restated bylaws, we will also be empowered to purchase insurance on behalf of any person whom we are required or permitted to indemnify.

In addition to the indemnification required in our amended and restated certificate of incorporation and amended and restated bylaws, we have entered into indemnification agreements with each of our current directors and officers. These agreements provide indemnification for certain expenses and liabilities incurred in connection with any action, suit, proceeding, or alternative dispute resolution mechanism, or hearing, inquiry, or investigation that may lead to the foregoing, to which they are a party, or are threatened to be made a party, by reason of the fact that they are or were a director, officer, employee, agent, or fiduciary of our company, or any of our subsidiaries, by reason of any action or inaction by them while serving as an officer, director, agent, or fiduciary, or by reason of the fact that they were serving at our request as a director, officer, employee, agent, or fiduciary of another entity. In the case of an action or proceeding by, or in the right of, our company or any of our subsidiaries, no indemnification will be provided for any claim where a court determines that the indemnified party is prohibited from receiving indemnification. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. A stockholder's investment may be harmed to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. Insofar as we may provide indemnification for liabilities arising under the Securities Act to our directors, officers, and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the opinion of the Securities Exchange and Commission, such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable. There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

### **Transfer agent and registrar**

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

## SELLING STOCKHOLDERS

The following table details the name of the selling stockholders, the number of shares of our common stock beneficially owned by the selling stockholders, and the number of shares of our common stock being offered by the selling stockholders for sale under this prospectus. The percentage of shares of our common stock beneficially owned by the selling stockholders following the offering of securities pursuant to this prospectus, is based on 16,391,185 shares of our common stock outstanding as of June 30, 2023, which includes 9,941,185 shares of our common stock outstanding as of June 30, 2023, the 3,450,000 shares of our common stock issued on October 2, 2023 in a public offering and 1,875,000 shares of our common stock issued on October 2, 2023 in the Concurrent Private Placement Offering, and assumes the exercise of pre-funded warrants to purchase 1,175,000 shares of common stock issued to the selling stockholders on October 2, 2023 in connection with the Concurrent Private Placement Offering.

Unless otherwise indicated in the footnotes below, each stockholder named in the following table possesses sole voting and investment power over the shares listed. The information does not necessarily indicate beneficial ownership for any other purpose.

Name	Shares of Common Stock Owned Prior to this Offering <sup>(1)</sup>	Shares of Common Stock Being Offered <sup>(2)</sup>	Beneficial Ownership After this Offering	
			Number of Shares <sup>(3)</sup>	%
Commodore Capital Master LP <sup>(4)</sup>	885,741	787,500	98,241	*
Frazier Life Sciences XI, L.P. <sup>(5)</sup>	257,628	168,000	89,268	*
Frazier Life Sciences Public Fund, L.P. <sup>(5)</sup>	634,463	414,312	220,151	1.3
Frazier Life Sciences X, L.P. <sup>(5)</sup>	50,245	32,813	17,432	*
Frazier Life Sciences Public Overage Fund, L.P. <sup>(5)</sup>	397,961	259,875	138,086	*
Adage Capital Partners LP <sup>(6)</sup>	1,327,000	750,000	577,000	3.5
The Perceptive Life Sciences Master Fund, Ltd. <sup>(7)</sup>	3,074,542	250,000	2,824,542	17.2
Woodline Master Fund LP <sup>(8)</sup>	200,000	200,000	0	0
Empery Asset Master, Ltd. <sup>(9)</sup>	107,293	55,038	52,255	*
Empery Tax Efficient, LP <sup>(9)</sup>	42,458	13,877	28,581	*
Empery Tax Efficient III, LP <sup>(9)</sup>	57,749	18,585	39,164	*
NCP RFM LP <sup>(10)</sup>	595,086	10,926	584,160	3.6
Nantahala Capital Partners Limited Partnership <sup>(10)</sup>	306,165	6,536	299,629	1.8
Blackwell Partners LLC - Series A <sup>(10)</sup>	470,205	32,538	437,667	2.7
<b>TOTAL</b>		<b>3,000,000</b>		

(\*) Represents beneficial ownership of less than 1%.

- (1) Beneficial ownership for the purposes of the following table is determined in accordance with the rules and regulations of the SEC. The above shall not be deemed to be an admission by any selling stockholder that it is itself a beneficial owner of any these securities for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or any other purpose.
- (2) Represents the number of shares of common stock or shares of common stock underlying outstanding warrants being registered hereby on behalf of the selling stockholder.
- (3) Assumes that the selling stockholder disposes of all the shares of common stock being registered hereby and does not acquire beneficial ownership of any additional shares. The registration of these shares of common stock does not necessarily mean that the selling stockholder will sell all or any portion of the shares of common stock covered by this prospectus.
- (4) Represents (i) 787,500 shares of common stock outstanding that were issued at the closing of the Concurrent Private Placement Offering on October 2, 2023 all of which is being registered for resale hereunder and (ii) 98,241 shares of common stock held by Commodore Capital Master LP. The address for Commodore Capital Master LP is 444 Madison Avenue, 35th Floor, New York, NY 10022.
- (5) Represents 168,000, 414,312, 32,813 and 259,875 shares of common stock underlying outstanding pre-funded warrant to purchase common stock that were issued at the closing of the Concurrent Private Placement Offering on October 2, 2023 to Frazier Life Sciences XI, L.P., Frazier Life Sciences Public Fund, L.P., Frazier Life Sciences X, L.P. and Frazier Life Sciences Public Overage Fund, L.P., respectively. FHMLS XI, L.P. is the general partner of Frazier Life Sciences XI, L.P. and FHMLS XI, L.L.C. is the general partner of FHMLS XI, L.P. Patrick Heron, James N. Topper and Daniel Estes are the managing partners of FHMLS XI, L.L.C. and therefore share voting and investment power over the shares held by Frazier Life Sciences XI, L.P. FHMLSP, L.P. is the general partner of Frazier Life Sciences Public Fund, L.P. and FHMLSP, L.L.C. is the general partner of FHMLSP, L.P. Mr. Heron, Dr. Topper, Albert Cha and James Brush are the managing partners of FHMLSP, L.L.C. and therefore share voting and investment power over the shares held by Frazier Life Sciences Public Fund, L.P. FHMLS X, L.P. is the general partner of Frazier Life Sciences X, L.P. and FHMLS X, L.L.C. is the general partner of FHMLS X, L.P. Mr. Heron and Dr. Topper are the managing partners of FHMLS X, L.L.C. and therefore share voting and investment power over the shares held by Frazier Life Sciences X, L.P. FHMLSP Overage, L.P. is the general partner of Frazier Life Sciences Public Overage Fund, L.P. and FHMLSP Overage, L.L.C. is the general partner of FHMLSP Overage, L.P. Mr. Heron, Dr. Topper, Mr. Cha and Mr. Brush are the managing partners of FHMLSP Overage L.L.C. and therefore share voting and investment power over the shares held by Frazier Life Sciences Public Overage Fund, L.P. Mr. Heron, Dr. Topper, Mr. Cha, Mr. Brush and Mr. Estes disclaim beneficial ownership of such securities except to the extent of any pecuniary interests therein. The selling stockholders may exercise certain rights to acquire shares of common stock disclosed above only if such acquisition would not cause the total number of shares of common stock beneficially owned by it and its affiliates to exceed 4.99% of the shares of the issuer's common stock then outstanding. The address for each of these entities is 601 Union Street, Suite 3200, Seattle, Washington 98101.
- (6) Represents (i) 750,000 shares of common stock outstanding that were issued at the closing of the Concurrent Private Placement Offering on October 2, 2023, all of which is being registered for resale hereunder and (ii) 577,000 shares of common stock held by Adage Capital Partners LP. The address for Adage Capital Partners LP is 200 Clarendon St. 52nd Floor Boston, MA 02116
- (7) Represents 250,000 shares of common stock underlying outstanding pre-funded warrant to purchase common stock that were issued at the closing of the Concurrent Private Placement Offering on October 2, 2023 and 3,074,542 shares of common stock reported on Schedule 13D/A September 29, 2023. The selling stockholder may exercise certain rights to acquire shares of common stock disclosed above only if such acquisition would not cause the total number of shares of common stock beneficially owned by it and its affiliates to exceed 9.99% of the shares of the issuer's common stock then outstanding. The address for Perceptive Advisors is 51 Astor Place, 10th Floor, New York, NY 10003.

- (8) Represents 200,000 shares of common stock outstanding that were issued at the closing of the Concurrent Private Placement Offering on October 2, 2023. Woodline Partners LP serves as the investment manager of Woodline Master Fund LP and may be deemed to be the beneficial owner of the shares. Woodline Partners LP disclaims any beneficial ownership of these shares. The address of the Fund is 4 Embarcadero Center, Suite 3450, San Francisco, CA94111.
- (9) Represents (i) 55,038, 13,877 and 18,585 shares of common stock outstanding that were issued at the closing of the Concurrent Private Placement Offering on October 2, 2023 to Empery Asset Master, Ltd. (“EAM”), Empery Tax Efficient, LP (“ETE”) and Empery Tax Efficient III, LP (“ETE III”), respectively, all of which is being registered for resale hereunder and (ii) warrants to purchase 52,255, 28,581 and 39,164 shares of common stock held by EAM, ETE and ETE III, respectively. Empery Asset Management LP, the authorized agent of each of EAM, ETE and ETE III, has discretionary authority to vote and dispose of the shares held by EAM, ETE and ETE III and may be deemed to be the beneficial owner of these shares. Martin Hoe and Ryan Lane, in their capacity as investment managers of Empery Asset Management LP, may also be deemed to have investment discretion and voting power over the shares held by EAM, ETE and ETE III. EAM, ETE, ETE III, Mr. Hoe and Mr. Lane each disclaim any beneficial ownership of these shares. The address for each of these entities is c/o Empery Asset Management, LP, 1 Rockefeller Plaza, Suite 1205, New York, NY 10020.
- (10) Represents (i) 10,926, 6,536 and 32,538 shares of common stock underlying outstanding pre-funded warrants that were issued at the closing of the Concurrent Private Placement Offering on October 2, 2023 to NCP RFM LP, Nantahala Capital Partners Limited Partnership and Blackwell Partners LLC - Series A, respectively, and (ii) 584,160, 299,629, and 437,667 shares of outstanding common stock or shares of common stock underlying warrants exercisable within sixty (60) days by NCP RFM LP, Nantahala Capital Partners Limited Partnership and Blackwell Partners LLC - Series A, respectively. Nantahala Capital Management, LLC, a Registered Investment Adviser, has the power to vote and/or direct the disposition of the securities held by the selling stockholder, either as a General Partner, Investment Manager, or Sub-Advisor, and may be deemed the beneficial owner of the shares of common stock held by such selling stockholder. Further, these selling stockholders may exercise certain rights to acquire shares of common stock disclosed above only if such acquisition would not cause the total number of shares of common stock beneficially owned by it and its affiliates to exceed 9.99% of the shares of common stock then outstanding. Wilmot Harkey and Daniel Mack are managing members of Nantahala Capital Management, LLC and may be deemed to have voting and dispositive power over the shares held by the selling stockholder. The address of NCP RFM LP and Nantahala Capital Partners Limited Partnership is 130 Main St., 2nd Floor, New Canaan, CT 06840 and the address of Blackwell Partners LLC - Series A is 280 South Mangum Street, Suite 210, Durham, NC 27701.



**Certain Relationships with Selling Stockholders**

*Purchase Agreement*

On September 28, 2023, we entered into the Purchase Agreement with the selling stockholders, pursuant to which we have agreed to register the sale by the selling stockholders, their affiliates and permitted transferees of common stock issued to the selling stockholders pursuant to the Purchase Agreement and issued in connection with the exercise of the pre-funded warrants purchased pursuant to the Purchase Agreement. We have agreed to use our reasonable best efforts to cause any such registration statement to become effective within certain time periods following the issuance of the common stock and pre-funded warrants.

## PLAN OF DISTRIBUTION

The offered shares are being registered to permit the selling stockholders (which as used herein means the entities listed in the table included in “Selling Stockholders” and the pledgees, donees, transferees, assignees, successors and others who later come to hold any of the offered shares as a result of a transfer not involving a public sale) to offer and sell such shares from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of common stock. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

Each selling stockholder may, from time to time, sell any or all of their shares of common stock covered hereby on The Nasdaq Capital Market or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or privately negotiated prices. A selling stockholder may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- one or more underwritten offerings;
- 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;
- settlement of short sales, to the extent permitted by law;
- in transactions through broker-dealers that agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- 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 the shares of common stock under Rule 144 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 shares, 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 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440-1.

In connection with the sale of the shares of common stock 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 shares of common stock in the course of hedging the positions they assume. The selling stockholders may also sell the shares of common stock short and deliver these securities to close out their short positions or to return borrowed shares in connection with such short sales, or loan or pledge the shares of common stock 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 shares of common stock offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

If underwriters are used in a sale, an underwriting agreement will be executed with the underwriter or underwriters at the time an agreement for the sale is reached. The applicable prospectus supplement will set forth the managing underwriter or underwriters, as well as any other underwriter or underwriters, with respect to a particular underwritten offering of securities, and will set forth the terms of the transactions, including compensation of the underwriters and dealers and the public offering price, if applicable. The prospectus and the applicable prospectus supplement will be used by the underwriters to resell the securities.

## [Table of Contents](#)

The selling stockholders and any underwriters, broker-dealers or agents that are involved in selling the shares of common stock 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 selling stockholders, broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act. Each selling stockholder has informed us that it is not a registered broker-dealer or an affiliate of a registered broker-dealer. In no event shall any broker-dealer receive fees, commissions and markups which, in the aggregate, would exceed eight percent (8%).

We are required to pay certain fees and expenses incurred by us incident to the registration of the shares. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act, and the selling stockholders may be entitled to contribution. We may be indemnified by the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act that may arise from any written information furnished to us by the selling stockholders specifically for use in this prospectus, or we may be entitled to contribution.

The selling stockholders will be subject to the prospectus delivery requirements of the Securities Act including Rule 172 thereunder unless an exemption therefrom is available.

We agreed to cause the registration statement of which this prospectus is a part to remain effective until the date on which all of the shares registered hereby are either sold pursuant to the registration statement or sold or available for resale without restriction under Rule 144 under the Securities Act. The shares of common stock will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the shares of common stock covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the shares of common stock may not simultaneously engage in market making activities with respect to the shares of common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of common stock by the selling stockholders or any other person. We will make copies of this prospectus available to the selling stockholders and have informed them of the need to deliver a copy of this prospectus at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

There can be no assurance that any selling stockholder will sell any or all of the shares of common stock we registered on behalf of the selling stockholders pursuant to the registration statement of which this prospectus forms a part.

Once sold under the registration statement of which this prospectus forms a part, the shares of common stock will be freely tradable in the hands of persons other than our affiliates.

## MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS OF OUR COMMON STOCK

The following 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 our common stock sold by the selling stockholders or their permitted transferees pursuant to this prospectus but does not purport to be a complete analysis of all the potential tax considerations relating thereto. This summary is based upon the provisions of the Internal Revenue Code of 1986, as amended (the Code), U.S. Treasury regulations promulgated thereunder, administrative rulings and judicial decisions, all as of the date hereof. These authorities may be changed, possibly retroactively, so as to result in U.S. federal income tax consequences different from those set forth below. We have not sought and will not seek any ruling from the Internal Revenue Service (IRS) with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS will agree with such statements and conclusions.

This summary applies only to common stock sold by the selling stockholders or their permitted transferees pursuant to this prospectus. It does not address the tax consequences arising under the laws of any non-U.S., state or local jurisdiction or under U.S. federal gift and estate tax laws, the potential application of the alternative minimum tax, the Medicare tax on net investment income or any other tax considerations applicable to an investor's particular circumstances or to investors that may be subject to special tax rules, including, without limitation:

- banks, insurance companies or other financial institutions;
- tax-exempt organizations or governmental organizations;
- real estate investment trusts, regulated investment companies or grantor trusts;
- qualified foreign pension funds or other tax-qualified retirement plans;
- controlled foreign corporations, passive foreign investment companies and corporations that accumulate earnings to avoid U.S. federal income tax;
- brokers or dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than 5% of our capital stock by vote or by value (except to the extent specifically set forth below);
- U.S. expatriates and former citizens or long-term residents of the United States;
- partnerships (or entities or arrangements classified as such for U.S. federal income tax purposes), other pass-through entities, and investors therein;
- persons who hold our common stock as a position in a "hedge," "straddle," "conversion transaction" or other risk reduction transaction;
- persons who do not hold our common stock as a capital asset within the meaning of Code Section 1221 (generally, property held for investment);
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to the common stock being taken into account in an "applicable financial statement" (as defined in Section 451(b) of the Code); or
- persons who hold or receive our common stock pursuant to the exercise of options or otherwise as compensation.

In addition, if a partnership (or entity or arrangement classified as such for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner generally will depend on the status of the partner and upon the activities of the partnership. Accordingly, partnerships that hold our common stock, and partners in such partnerships, should consult their tax advisors regarding the tax consequences of the purchase, ownership and disposition of our common stock.

***This discussion is for informational purposes only and is not tax advice. You are urged to consult your tax advisor with respect to the application of the U.S. federal income tax laws to your particular situation, as well as any tax consequences of the purchase, ownership and disposition of our common stock arising under the U.S. federal estate or gift tax laws or under the laws of any state, local, non-U.S. or other taxing jurisdiction or under any applicable tax treaty.***

## **Non-U.S. Holder Defined**

For purposes of this discussion, you are a non-U.S. holder if you are a beneficial owner of shares of our common stock that, for U.S. federal income tax purposes, is not a partnership or:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) created or organized in the United States or under the laws of the United States or any political subdivision thereof;
- an estate whose income is subject to U.S. federal income tax regardless of its source; or
- a trust (x) whose administration is subject to the primary supervision of a U.S. court and which has one or more U.S. persons who have the authority to control all substantial decisions of the trust or (y) which has made a valid election to be treated as a U.S. person for U.S. federal income tax purposes.

## **Distributions**

We have not made any distributions on our common stock, and we do not plan to make any distributions on our common stock. However, if we do make distributions on our common stock, those payments 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. To the extent those distributions exceed both our current and our accumulated earnings and profits, they will constitute a return of capital and will first reduce your basis in our common stock, but not below zero, and then will be treated as gain from the sale of stock. Under applicable Treasury Regulations, we may withhold up to 30% of the gross amount of the entire distribution even if the amount constituting a dividend, as described above, is less than the gross amount. You may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

Subject to the discussions below on effectively connected income, backup withholding and FATCA, any dividend paid to you generally will be subject to U.S. withholding tax either at a rate of 30% of the gross amount of the dividend or such lower rate as may be specified by an applicable income tax treaty between the United States and your country of residence. In order to receive a reduced treaty rate, you must provide us with an IRS Form W-8BEN, IRS Form W-8BEN-E or other appropriate version of IRS Form W-8 (or the applicable successor form), including a U.S. taxpayer identification number, if required, certifying qualification for the reduced rate. In addition, you will be required to update such forms and certifications from time to time as required by law. If you are eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty, you may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. If you hold our common stock through a financial institution or other agent acting on your behalf, you will be required to provide appropriate documentation to the agent, which may then be required to provide certification to the relevant paying agent, either directly or through other intermediaries.

Dividends received by you that are effectively connected with your conduct of a trade or business in the United States (and, if required by an applicable tax treaty, that are attributable to a permanent establishment or a fixed base maintained by you in the United States), are generally exempt from such withholding tax, subject to the discussions below on backup withholding and FATCA. In order to obtain this exemption, you must provide us with an IRS Form W-8ECI properly certifying such exemption. Such effectively connected dividends, although not subject to withholding tax, generally are taxed at the same graduated rates applicable to U.S. persons, net of certain deductions and credits. In addition, if you are a non-U.S. holder treated as a corporation for U.S. federal income tax purposes, dividends you receive that are effectively connected with your conduct of a trade or business in the United States may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable income tax treaty. You should consult your tax advisor regarding any applicable tax treaties that may provide for different rules.

## **Gain on Disposition of Our Common Stock**

Subject to discussions below regarding backup withholding, you generally will not be required to pay U.S. federal income tax on any gain realized upon the sale or other disposition of our common stock unless:

- the gain is effectively connected with your conduct of a trade or business in the United States (and, if required by an applicable income tax treaty, the gain is attributable to a permanent establishment or a fixed base maintained by you in the United States);
- you are an individual who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the sale or disposition occurs and certain other conditions are met; or
- our common stock constitutes a U.S. real property interest by reason of our status as a “United States real property holding corporation,” or USRPHC, for U.S. federal income tax purposes at any time within the shorter of the five year period preceding your disposition of, or your holding period for, our common stock.

## [Table of Contents](#)

In general, a corporation is a USRPHC if the fair market value of its U.S. real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide property interests and its other assets used or held for use in a trade or business (all as determined for U.S. federal income tax purposes). We believe that we are not currently and will not become a USRPHC, and the remainder of this discussion so assumes. However, because the determination of whether we are a USRPHC depends on the fair market value of our U.S. real property relative to the fair market value of our worldwide real property and other business assets, there can be no assurance that we will not become a USRPHC in the future. Even if we become a USRPHC, however, as long as our common stock is “regularly traded on an established securities market” (within the meaning of Section 897(c)(3) of the Code), such common stock will be treated as U.S. real property interests only if you actually or constructively hold more than 5% of such regularly traded common stock at any time during the shorter of the five year period preceding your disposition of, or your holding period for, our common stock.

If you are a non-U.S. holder described in the first bullet above, you will be required to pay U.S. federal income tax on the net gain derived from the sale under regular graduated U.S. federal income tax rates, and a corporate non-U.S. holder described in the first bullet above also may be subject to the branch profits tax at a 30% rate, or such lower rate as may be specified by an applicable income tax treaty. If you are an individual non-U.S. holder described in the second bullet above, you will be required to pay a flat 30% U.S. federal income tax (or such lower rate specified by an applicable income tax treaty) on the gain derived from the sale, which gain may be offset by U.S.-source capital losses for the year. You should consult your tax advisor regarding any applicable income tax or other treaties that may provide for different rules.

### **Backup Withholding and Information Reporting**

Generally, we must report annually to the IRS the amount of dividends paid to you, your name and address, and the amount of tax withheld, if any. A similar report will be sent to you. Pursuant to applicable income tax treaties or other agreements, the IRS may make these reports available to tax authorities in your country of residence.

Payments of dividends on or of proceeds from the disposition of our common stock made to you may be subject to additional information reporting and backup withholding at a current rate of 24% unless you establish an exemption, for example, by properly certifying your non-U.S. status on an IRS Form W-8BEN, IRS Form W-8BEN-E or another appropriate version of IRS Form W-8 (or an applicable successor form). Notwithstanding the foregoing, backup withholding and information reporting may apply if either we or our paying agent has actual knowledge, or reason to know, that you are a U.S. person.

Backup withholding is not an additional tax; rather, the U.S. federal income tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund or credit may generally be obtained from the IRS, provided that the required information is furnished to the IRS in a timely manner.

### **Foreign Account Tax Compliance Act (FATCA)**

Sections 1471 through 1474 of the Code, and the Treasury regulations and administrative guidance issued thereunder, commonly referred to as “FATCA”, generally impose a U.S. federal withholding tax of 30% on dividends on and the gross proceeds from a disposition of our common stock paid to a “foreign financial institution” (as defined in the Code) unless such institution enters into an agreement with the U.S. government to, among other things, withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with U.S. owners) or otherwise establishes an exemption. FATCA also generally imposes a U.S. federal withholding tax of 30% on dividends on and the gross proceeds from a disposition of our common stock paid to a “non-financial foreign entity” (as specifically defined in the Code) unless such entity provides the withholding agent with either a certification that it does not have any substantial direct or indirect U.S. owners or provides information regarding direct and indirect U.S. owners of the entity or otherwise establishes an exemption.

The withholding provisions described above generally apply to payments of dividends on our common stock. The Treasury Secretary has issued proposed regulations providing that the withholding provisions under FATCA do not apply with respect to the gross proceeds from a sale or other disposition of common stock, which may be relied upon by taxpayers until final regulations are issued. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this section. Under certain circumstances, a non-U.S. holder might be eligible for refunds or credits of such taxes. You should consult your tax advisors regarding the potential application of FATCA to your investment in, and ownership and disposition of, our common stock.

***Each prospective investor should consult its tax advisor regarding the particular U.S. federal, state and local and non-U.S. tax consequences of purchasing, holding and disposing of our common stock, including the consequences of any proposed change in applicable laws.***

## **LEGAL MATTERS**

Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, CA, will pass upon the validity of the shares of common stock offered hereby. Certain members of, and investment partnerships comprised of members of, and persons associated with, Wilson Sonsini Goodrich & Rosati own an interest representing less than 0.5% of our common stock.

## **EXPERTS**

Marcum LLP, an independent registered public accounting firm has audited our financial statements as of and for each of the years in the two-year period ended December 31, 2022, as set forth in their report which includes an explanatory paragraph as to the Company's ability to continue as a going concern, dated March 22, 2023. We have incorporated by reference our financial statements in the prospectus and elsewhere in the registration statement in reliance on the report of Marcum LLP, given their authority as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at [www.sec.gov](http://www.sec.gov). We also maintain a website at [www.soleno.life](http://www.soleno.life). 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 ([www.soleno.life](http://www.soleno.life)) 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 this prospectus.

This prospectus and any prospectus supplement is part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. You should review the information and exhibits in the registration statement for further information on us and our consolidated subsidiaries and the securities that we are offering. Forms of any indenture or other documents establishing the terms of the offered securities are filed as exhibits to the registration statement of which this prospectus forms a part or under cover of a Current Report on Form 8-K and incorporated in this prospectus by reference. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should read the actual documents for a more complete description of the relevant matters.

## INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference much of the information that we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. This prospectus incorporates by reference the documents listed below (other than any portions of such documents that are not deemed "filed" under the Exchange Act in accordance with the Exchange Act and applicable SEC rules):

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2022, filed with the SEC on March 22, 2023;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, filed with the SEC on [May 9, 2023](#), and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2023, filed with the SEC on [August 8, 2023](#);
- our Current Reports on Form 8-K filed with the SEC on [January 30, 2023](#), [February 24, 2023](#), [May 3, 2023](#), [May 9, 2023](#), [May 26, 2023](#), [August 16, 2023](#), [September 26, 2023](#), [September 27, 2023](#) and [September 29, 2023](#);
- [the description of our common stock contained in the Annual Report as Exhibit 4.29.](#)

Any information contained in this prospectus or in any document incorporated by reference in this prospectus will be deemed to be modified or superseded to the extent that a statement contained in any prospectus supplement or free writing prospectus provided to you by us modifies or supersedes the original statement.



**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS****Item 13. Other Expenses of Issuance and Distribution.**

The following table sets forth the estimated costs and expenses to be incurred in connection with the issuance and distribution of the securities registered under this Registration Statement. All amounts are estimates except the Securities and Exchange Commission registration fee.

	<u>Amount to be Paid</u>
SEC registration fee	\$10,777.76
Legal fees and expenses	*
Accountant's fees and expenses	*
Miscellaneous expenses	*
Total	<u>\$</u> *

\* Estimates not currently known.

**Item 14. Indemnification of Directors and Officers.**

Section 145 of the Delaware General Corporation Law authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors and other corporate agents.

As permitted by Section 102(b)(7) of the Delaware General Corporation Law, the Registrant's second amended and restated certificate of incorporation includes provisions that may eliminate the personal liability of its directors and officers for monetary damages for breach of their fiduciary duty as directors and officers.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, the second amended and restated certificate of incorporation and the amended and restated bylaws of the Registrant provide that:

- The Registrant shall indemnify its directors and officers for serving the Registrant in those capacities or for serving other business enterprises at the Registrant's request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.
- The Registrant may, in its discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.
- The Registrant is required to advance expenses, as incurred, to its directors and officers in connection with defending a proceeding, except that such director or officer shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification under the amended and restated bylaws of the Registrant or the Delaware General Corporation Law.
- The Registrant will not be obligated pursuant to the amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person, except with respect to proceedings authorized by the Registrant's board of directors or brought to enforce a right to indemnification or otherwise required under the amended and restated bylaws of the Registrant or applicable law.
- The rights conferred in the second amended and restated certificate of incorporation and amended and restated bylaws are not exclusive, and the Registrant is authorized to enter into indemnification agreements with its directors, officers, employees and agents and to obtain insurance to indemnify such persons.
- The Registrant may not retroactively amend the bylaw provisions to reduce its indemnification obligations to directors, officers, employees and agents.

The Registrant's policy is to enter into separate indemnification agreements with each of its directors and officers that provide the maximum indemnity allowed to directors and executive officers by Section 145 of the Delaware General Corporation Law and also to provide for certain additional procedural protections. The Registrant also maintains directors and officers insurance to insure such persons against certain liabilities.

---

## [Table of Contents](#)

These indemnification provisions and the indemnification agreements entered into between the Registrant and its officers and directors may be sufficiently broad to permit indemnification of the Registrant's officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act

### **Item 15. Recent Sales of Unregistered Securities.**

#### ***Securities Purchase Agreement***

On September 28, 2023, the Company entered into a Securities Purchase Agreement (the Purchase Agreement) for a private placement (the Concurrent Private Placement Offering) with certain entities affiliated with the selling stockholders.

On October 2, 2023, the Company closed on the sale of an aggregate of 1,825,000 shares of common stock and pre-funded warrants to purchase 1,175,000 shares of common stock to the selling stockholders. Based in part upon the representations of the selling stockholders in the Purchase Agreement, the offering and sale of the shares of common stock and pre-funded warrants to purchase common stock was exempt from registration under Section 4(a)(2) of the Securities Act and/or Rule 506 of Regulation D promulgated under the Securities Act.

### **Item 16. Exhibits and Financial Statement Schedules.**

#### (a) Exhibits

The exhibits to the registration statement are listed in the Exhibit Index to this registration statement and are incorporated herein by reference.

#### (b) Financial statement schedules

All schedules have been omitted because either they are not required, are not applicable or the information is otherwise set forth in the financial statements and related notes thereto incorporated by reference herein.

**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;

(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 Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(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.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) 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 Securities Act of 1933 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 Securities Act and will be governed by the final adjudication of such issue.

## Table of Contents

Exhibit Number	Description of Document	Incorporated by Reference from			
		Registrant's Form	Date Filed with the SEC	Exhibit Number	Filed Herewith
2.1	<a href="#">Stock Purchase Agreement, dated as of July 18, 2017, and between Soleno Therapeutics, Inc., a Delaware corporation, and NeoForce Holdings, Inc. a Delaware corporation</a>	8-K	July 24, 2017	2.1	
2.2	<a href="#">Joint Venture Agreement, dated as of December 4, 2017, by and among Soleno Therapeutics, Inc., Capnia, Inc., and OptAsia Healthcare Limited</a>	8-K	December 8, 2017	2.1	
2.3	<a href="#">PRC IP Purchase Agreement, dated as of December 4, 2017, by and between OptAsia Healthcare Limited and Capnia, Inc.</a>	8-K	December 8, 2017	2.2	
2.4	<a href="#">Transition Services Agreement, dated as of December 4, 2017, by and among Soleno Therapeutics, Inc., a Delaware corporation, Capnia, Inc. and OptAsia Healthcare, Ltd., a Hong Kong company</a>	8-K	December 8, 2017	2.3	
3.1	<a href="#">Amended and Restated Certificate of Incorporation of Soleno Therapeutics, Inc.</a>	S-1/A	August 7, 2014	3.2	
3.2	<a href="#">Amended and Restated Bylaws of Soleno Therapeutics, Inc.</a>	S-1/A	July 1, 2014	3.4	
3.3	<a href="#">Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Preferred Stock.</a>	8-K	October 15, 2015	3.1	
3.4	<a href="#">Certificate of Designation of Preferences, Rights and Limitations of Series B Convertible Preferred Stock</a>	8-K	July 6, 2016	3.1	
3.5	<a href="#">Certificate of Amendment</a>	8-K	May 11, 2017	3.1	
3.6	<a href="#">Certificate of Amendment to the Certificate of Incorporation</a>	8-K	October 6, 2017	3.1	
3.7	<a href="#">Certificate of Amendment to the Certificate of Incorporation</a>	8-K	August 25, 2022	3.1	
4.1	<a href="#">Form of the Registrant's common stock certificate.</a>	S-1/A	August 5, 2014	4.1	
4.2	<a href="#">Amended and Restated Investors' Rights Agreement, dated March 20, 2008, by and among Soleno Therapeutics, Inc. and certain holders of the Soleno Therapeutics, Inc.'s capital stock named therein.</a>	S-1/A	July 1, 2014	4.2	

## Table of Contents

Exhibit Number	Description of Document	Incorporated by Reference from			
		Registrant's Form	Date Filed with the SEC	Exhibit Number	Filed Herewith
4.3	<a href="#">Form of Series A Warrant Agreement.</a>	S-1/A	August 5, 2014	4.3	
4.4	<a href="#">Form of the Series A Warrant certificate.</a>	S-1/A	August 5, 2014	4.4	
4.5	<a href="#">Form of Underwriters' Compensation Warrant.</a>	S-1/A	August 5, 2014	4.5	
4.6	<a href="#">Form of Convertible Promissory Note issued in February 2010 and March 2010 in connection with the 2010 convertible note financing.</a>	S-1	June 10, 2014	4.6	
4.7	<a href="#">Form of Warrant to Purchase Shares issued in February 2010 and March 2010 in connection with the 2010 convertible note financing.</a>	S-1	June 10, 2014	4.7	
4.8	<a href="#">Form of Convertible Promissory Note issued in November 2010 in connection with the 2010 convertible note financing.</a>	S-1	June 10, 2014	4.8	
4.9	<a href="#">Form of Warrant to Purchase Shares issued in November 2010 in connection with the 2010 convertible note financing.</a>	S-1	June 10, 2014	4.9	
4.10	<a href="#">Form of Convertible Promissory Note issued in January 2012 in connection with the 2012 convertible note financing.</a>	S-1	June 10, 2014	4.10	
4.11	<a href="#">Form of Warrant to Purchase Shares issued in January 2012 in connection with Soleno Therapeutics, Inc.'s 2012 convertible note financing.</a>	S-1	June 10, 2014	4.11	
4.12	<a href="#">Form of Convertible Promissory Note issued in July 2012 and August 2012 in connection with the 2012 convertible note financing.</a>	S-1	June 10, 2014	4.12	
4.13	<a href="#">Form of Warrant to Purchase Shares issued in July 2012 and August 2012 in connection with the 2012 convertible note financing.</a>	S-1	June 10, 2014	4.13	
4.14	<a href="#">Form of Convertible Promissory Note issued in April, August and October 2014 in connection with the 2014 convertible note financing.</a>	S-1	June 10, 2014	4.14	
4.15	<a href="#">Form of Warrant to Purchase Shares issued in April, August and October 2014 in connection with the 2014 convertible note financing.</a>	S-1	June 10, 2014	4.15	
4.16	<a href="#">Form of unit certificate.</a>	S-1/A	August 5, 2014	4.16	
4.17	<a href="#">Form of Series B Warrant Agreement.</a>	S-1/A	November 4, 2014	4.17	
4.18	<a href="#">Form of the Series B Warrant certificate.</a>	S-1/A	November 4, 2014	4.18	

## Table of Contents

Exhibit Number	Description of Document	Incorporated by Reference from			
		Registrant's Form	Date Filed with the SEC	Exhibit Number	Filed Herewith
4.19	<a href="#">Form of the Series C Warrant Agreement.</a>	S-4	April 1, 2015	4.19	
4.20	<a href="#">Form of the Series C Warrant certificate.</a>	S-4	April 1, 2015	4.20	
4.21	<a href="#">Form of Series D Common Stock Purchase Warrant.</a>	8-K	October 15, 2015	4.1	
4.22	<a href="#">Form of Placement Agent Warrant.</a>	8-K	October 15, 2015	4.2	
4.23	<a href="#">Form of Series D common stock Warrant Certificate.</a>	8-K	October 15, 2015	4.3	
4.24	<a href="#">Form of Series A Convertible Preferred Stock Certificate.</a>	8-K	October 15, 2015	4.4	
4.25	<a href="#">Form of Placement Agent Warrant.</a>	8-K	July 6, 2016	4.1	
4.26	<a href="#">Form of Series B Convertible Preferred Stock Certificate.</a>	8-K	July 6, 2016	4.2	
4.27	<a href="#">Form of Common Stock Purchase Warrant</a>	8-K	December 13, 2017	4.1	
4.28	<a href="#">Form of Common Stock Purchase Warrant</a>	8-K	December 19, 2018	4.1	
4.29	<a href="#">Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934</a>	10-K	March 4, 2020	4.29	
4.30	<a href="#">Form of Pre-Funded Warrant To Purchase Common Stock.</a>	8-K	March 30, 2022	4.1	
4.31	<a href="#">Form of Common Warrant To Purchase Common Stock.</a>	8-K	March 30, 2022	4.2	
4.32	<a href="#">Form of Tranche A Warrant to Purchase Common Stock</a>	8-K	December 19, 2022	10.2	
4.33	<a href="#">Form of Tranche B Warrant to Purchase Common Stock</a>	8-K	December 19, 2022	10.3	
4.34	<a href="#">Form of Pre-Funded Warrant</a>	8-K	September 29, 2023	10.2	
5.1	<a href="#">Opinion of Wilson Sonsini Goodrich &amp; Rosati, P.C.</a>				
9.10	<a href="#">Form of Voting Agreement.</a>	8-K	October 15, 2015	9.1	
9.20	<a href="#">Form of Voting Agreement.</a>	8-K	July 6, 2016	9.1	
9.30	<a href="#">Form of Voting Agreement.</a>	8-K	December 27, 2016	10.1	
10.1	<a href="#">Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.</a>	S-1/A	June 10, 2014	10.1	
10.2	<a href="#">1999 Incentive Stock Plan and forms of agreements thereunder.</a>	S-1/A	June 10, 2014	10.2	

## Table of Contents

<b>Exhibit Number</b>	<b>Description of Document</b>	<b>Incorporated by Reference from</b>			
		<b>Registrant's Form</b>	<b>Date Filed with the SEC</b>	<b>Exhibit Number</b>	<b>Filed Herewith</b>
10.3	<a href="#"><u>2010 Equity Incentive Plan and forms of agreements thereunder.</u></a>	S-1/A	June 10, 2014	10.3	
10.4	<a href="#"><u>2014 Equity Incentive Plan and forms of agreements thereunder.</u></a>	S-1/A	July 1, 2014	10.4	
10.5	<a href="#"><u>2014 Employee Stock Purchase Plan and forms of agreements thereunder.</u></a>	S-1/A	July 1, 2014	10.5	
10.6	<a href="#"><u>Offer Letter, dated June 22, 2007, by and between Soleno Therapeutics, Inc. and Ernest Mario, Ph.D.</u></a>	S-1	June 10, 2014	10.6	
10.7	<a href="#"><u>Employment Agreement, dated April 6, 2010, by and between Soleno Therapeutics, Inc. and Anish Bhatnagar.</u></a>	S-1	June 10, 2014	10.7	
10.8	<a href="#"><u>Offer Letter, dated May 29, 2013, between Soleno Therapeutics, Inc. and Anthony Wondka.</u></a>	S-1	June 10, 2014	10.8	
10.9	<a href="#"><u>Offer Letter, dated April 17, 2014, by and between Soleno Therapeutics, Inc. and Antoun Nabhan.</u></a>	S-1	June 10, 2014	10.9	
10.10	<a href="#"><u>Asset Purchase Agreement dated May 11, 2010, by and between Soleno Therapeutics, Inc. and BioMedical Drug Development Inc.</u></a>	S-1	June 10, 2014	10.10	
10.11	<a href="#"><u>Convertible Note and Warrant Purchase Agreement, dated February 10, 2010, by and among Soleno Therapeutics, Inc. and the investors named therein.</u></a>	S-1	June 10, 2014	10.11	
10.12	<a href="#"><u>Amendment No. 1 to Convertible Note and Warrant Purchase Agreement, Convertible Promissory Notes and Warrants to Purchase Shares, dated November 10, 2010, by and among Soleno Therapeutics, Inc. and the investors named therein.</u></a>	S-1	June 10, 2014	10.12	
10.13	<a href="#"><u>Amendment No. 2 to Convertible Note and Warrant Purchase Agreement, Convertible Promissory Notes and Warrants to Purchase Shares, dated January 17, 2012, by and among Soleno Therapeutics, Inc. and the investors named therein.</u></a>	S-1	June 10, 2014	10.13	
10.14	<a href="#"><u>Convertible Note and Warrant Purchase Agreement, dated January 16, 2012, by and among Soleno Therapeutics, Inc. and the investors named therein.</u></a>	S-1	June 10, 2014	10.14	

## Table of Contents

<u>Exhibit Number</u>	<u>Description of Document</u>	<u>Incorporated by Reference from</u>			
		<u>Registrant's Form</u>	<u>Date Filed with the SEC</u>	<u>Exhibit Number</u>	<u>Filed Herewith</u>
10.15	<a href="#"><u>Omnibus Amendment to Convertible Note and Warrant Purchase Agreement, Convertible Promissory Notes and Warrants to Purchase Shares, dated July 31, 2012, by and among Soleno Therapeutics, Inc. and the investors named therein.</u></a>	S-1	June 10, 2014	10.15	
10.16	<a href="#"><u>Omnibus Amendment to Convertible Promissory Notes and Warrants to Purchase Shares, dated April 28, 2014, by and among Soleno Therapeutics, Inc. and the investors named therein.</u></a>	S-1	June 10, 2014	10.16	
10.17	<a href="#"><u>Convertible Note and Warrant Purchase Agreement, dated April 28, 2014, by and among Soleno Therapeutics, Inc. and the investors named therein.</u></a>	S-1	June 10, 2014	10.17	
10.18	<a href="#"><u>Omnibus Amendment to Convertible Note and Warrant Purchase Agreement, Convertible Promissory Notes and Warrants to Purchase Shares, dated May 5, 2014, by and among Soleno Therapeutics, Inc. and the investors named therein.</u></a>	S-1	June 10, 2014	10.18	
10.19	<a href="#"><u>Sublease, dated May 20, 2014, by and among Soleno Therapeutics, Inc. and Silicon Valley Finance Group.</u></a>	S-1/A	July 1, 2014	10.19	
10.20	<a href="#"><u>Offer Letter, dated June 24, 2014, by and between Soleno Therapeutics, Inc. and David D. O'Toole.</u></a>	S-1/A	July 22, 2014	10.20	
10.21	<a href="#"><u>Loan Agreement by and between Soleno Therapeutics, Inc. and the investors named therein, dated September 29, 2014.</u></a>	S-1/A	September 29, 2014	10.21	
10.22	<a href="#"><u>Revised Second Tranche Closing Notice and Letter Amendment dated August 18, 2014 relating to the August 2014 Notes.</u></a>	S-1/A	November 4, 2014	10.22	
10.23	<a href="#"><u>Second Tranche Subsequent Closing Notice and Letter Amendment dated October 22, 2014 relating to the October 2014 Notes.</u></a>	S-1/A	November 4, 2014	10.23	
10.24	<a href="#"><u>Form of Warrant Exercise Agreement.</u></a>	8-K	March 5, 2015	10.1	
10.25	<a href="#"><u>Advisory Agreement by and between Soleno Therapeutics, Inc. and Maxim Group LLC, dated March 4, 2015.</u></a>	S-4	April 1, 2015	10.25	



## Table of Contents

Exhibit Number	Description of Document	Incorporated by Reference from		
		Registrant's Form	Date Filed with the SEC	Exhibit Number Filed Herewith
10.26	<a href="#">Agreement and First Amendment to Asset Purchase Agreement between the Company, BDDI and affiliate of BDDI, dated June 30, 2015.</a>	8-K	July 7, 2015	10.1
10.27	<a href="#">Common Stock Purchase Agreement between the Company and an affiliate of BDDI, dated June 30, 2015.</a>	8-K	July 7, 2015	10.2
10.28	<a href="#">Registration Rights Agreement between the Company and Aspire Capital Fund, LLC, dated July 24, 2015.</a>	8-K	July 27, 2015	4.1
10.29	<a href="#">Common Stock Purchase Agreement between the Company and Aspire Capital Fund, LLC, dated July 24, 2015.</a>	8-K	July 27, 2015	10.1
10.30	<a href="#">Engagement Letter dated September 17, 2015, between Soleno Therapeutics, Inc. and Maxim Group, LLC.</a>	8-K	October 15, 2015	1.1
10.31	<a href="#">Securities Purchase Agreement dated October 12, 2015.</a>	8-K	October 15, 2015	10.1
10.32	<a href="#">Form of Registration Rights Agreement.</a>	8-K	October 15, 2015	10.2
10.33	<a href="#">Form of Lock-Up Agreement.</a>	8-K	October 15, 2015	10.3
10.34	<a href="#">Amendment No. 1 to Securities Purchase Agreement dated October 29, 2015.</a>	S-1/A	December 22, 2015	10.33
10.35	<a href="#">Transfer and Distribution Agreement: United States: by and between Soleno Therapeutics, Inc. and Bemes, Inc. signed January 26, 2016.</a>	8-K	January 28, 2016	10.1
10.36	<a href="#">Engagement Letter dated June 26, 2016, between Soleno Therapeutics, Inc. and Maxim Group, LLC.</a>	8-K	July 6, 2016	1.1
10.37	<a href="#">Securities Purchase Agreement dated June 29, 2016.</a>	8-K	July 6, 2016	10.1
10.38	<a href="#">Form of Registration Rights Agreement dated June 29, 2016.</a>	8-K	July 6, 2016	10.2
10.39	<a href="#">Amendment No. 1 to Securities Purchase Agreement dated September 20, 2016.</a>	S-1/A	September 20, 2016	10.39

## Table of Contents

<u>Exhibit Number</u>	<u>Description of Document</u>	<u>Incorporated by Reference from</u>			
		<u>Registrant's Form</u>	<u>Date Filed with the SEC</u>	<u>Exhibit Number</u>	<u>Filed Herewith</u>
10.40	<a href="#"><u>Agreement and Plan of Merger and Reorganization, dated as of December 22, 2016, by and among Soleno Therapeutics, Inc., a Delaware corporation, Essentialis, Inc., a Delaware corporation, Company E Merger Sub, Inc., a Delaware corporation and a wholly-owned subsidiary of Soleno Therapeutics, and Neil Cowen as the stockholders' representative.</u></a>	8-K	December 27, 2016	2.1	
10.41	<a href="#"><u>Registration Rights Agreement between the Company and Aspire Capital Fund, LLC, dated January 27, 2017.</u></a>	S-1	February 1, 2017	10.51	
10.42	<a href="#"><u>Common Stock Purchase Agreement between the Company and Aspire Capital Fund, LLC, dated January 27, 2017.</u></a>	S-1	February 1, 2017	10.52	
10.43	<a href="#"><u>Stock Purchase Agreement made by and between the Company and NeoForce Holdings, Inc. a Delaware corporation dated July 18, 2017</u></a>	8-K	July 24, 2017	2.1	
10.44	<a href="#"><u>Joint Venture Agreement dated as of December 4, 2017 by and among Soleno Therapeutics, Inc., Capnia, Inc., and OptAsia Healthcare Limited</u></a>	8-K	December 8, 2017	2.1	
10.45	<a href="#"><u>Securities Purchase Agreement, dated as of December 11, 2017</u></a>	8-K	December 13, 2017	10.1	
10.46	<a href="#"><u>Confidential Consulting Agreement, dated September 5, 2017 by and between FLG Partners, LLC and the Company</u></a>	8-K	June 4, 2018	10.1	
10.47	<a href="#"><u>Securities Purchase Agreement, dated as of December 19, 2018</u></a>	8-K	December 19, 2018	10.1	
10.48	<a href="#"><u>Employment Agreement with Kristen Yen</u></a>	S-1	March 29, 2019	10.48	
10.49	<a href="#"><u>2020 Inducement Equity Incentive Plan, as amended, and form of option agreement thereunder</u></a>	8-K	October 2, 2020	10.1	
10.50	<a href="#"><u>Employment Agreement by and between the Company and James Mackaness, dated as of November 11, 2020</u></a>	8-K	November 13, 2020	10.1	
10.51	<a href="#"><u>Amendment to Employment Agreement by and between the Company and James Mackaness, dated as of January 8, 2021</u></a>	8-K	January 13, 2021	10.1	

## Table of Contents

<b>Exhibit Number</b>	<b>Description of Document</b>	<b>Incorporated by Reference from</b>			
		<b>Registrant's Form</b>	<b>Date Filed with the SEC</b>	<b>Exhibit Number</b>	<b>Filed Herewith</b>
10.52	<a href="#">Amendment to Employment Agreement by and between the Company and Kristen Yen, dated as of January 8, 2021</a>	8-K	January 13, 2021	10.2	
10.53	<a href="#">Amendment to Employment Agreement by and between the Company and Patricia Hirano, dated as of January 8, 2021</a>	8-K	January 13, 2021	10.3	
10.54	<a href="#">Lease agreement between the Company and Hudson Towers at Shore Center, LLC dated April 16, 2021</a>	10-Q	May 5, 2021	10.55	
10.55	<a href="#">Securities Purchase Agreement dated December 16, 2022</a>	8-K	December 19, 2022	10.1	
10.56	<a href="#">Securities Purchase Agreement, dated as of September 28, 2023, by and among Soleno Therapeutics, Inc. and the Purchasers named therein.</a>	8-K	September 29, 2023	10.1	
21.1	<a href="#">Subsidiaries</a>	10-K	March 22, 2023	21.1	
23.1	<a href="#">Consent of Marcum LLP, independent registered accounting firm</a>				
23.2	<a href="#">Consent of Wilson Sonsini Goodrich &amp; Rosati, Professional Corporation (included in the opinion filed as Exhibit 5.1 to this Registration Statement)</a>				
24.1	<a href="#">Power of Attorney (included on the signature page to this Registration Statement)</a>				
107	<a href="#">Filing Fee Table</a>				

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Redwood City, State of California, on this 20th day of October 2023.

SOLENO THERAPEUTICS, INC.

By: /s/ Anish Bhatnagar

*Anish Bhatnagar*

*President and Chief Executive Officer*

## [Table of Contents](#)

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below, hereby constitutes and appoints Anish Bhatnagar and James Mackaness his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to the registration statement, including post-effective amendments, and registration statements filed pursuant to Rule 462 under the Securities Act of 1933, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and does hereby grant 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 and about the foregoing, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Anish Bhatnagar</u> Anish Bhatnagar	President, Chief Executive Officer and Director (Principal Executive Officer)	October 20, 2023
<u>/s/ James Mackaness</u> James Mackaness	Chief Financial Officer (Principal Financial and Accounting Officer)	October 20, 2023
<u>/s/ Ernest Mario</u> Ernest Mario	Chairman	October 20, 2023
<u>/s/ Andrew Sinclair</u> Andrew Sinclair	Director	October 20, 2023
<u>/s/ William G. Harris</u> William G. Harris	Director	October 20, 2023
<u>/s/ Birgitte Volck</u> Birgitte Volck	Director	October 20, 2023
<u>/s/ Matthew Pauls</u> Matthew Pauls	Director	October 20, 2023
<u>/s/ Gwen Melincoff</u> Gwen Melincoff	Director	October 20, 2023



Wilson Sonsini Goodrich & Rosati  
Professional Corporation

650 Page Mill Road  
Palo Alto, CA 94304

O: (650) 493-9300  
F: (650) 493-6811

October 20, 2023

Soleno Therapeutics, Inc.  
203 Redwood Shores Parkway, Suite 500  
Redwood City, California 94065

**Re: Registration Statement on Form S-3**

Ladies and Gentlemen:

This opinion is furnished to you in connection with the Registration Statement on Form S-3 (the "Registration Statement"), to be filed on or about October 20, 2023 by Soleno Therapeutics, Inc. (the "Company") with the Securities and Exchange Commission in connection with the registration for resale under the Securities Act of 1933, as amended (the "Securities Act"), of up to 3,000,000 shares of the Company's common stock, \$0.001 par value per share, which consists of 1,825,000 outstanding shares of common stock (the "Outstanding Shares") and 1,175,000 shares of common stock underlying outstanding pre-funded warrants (the "Warrants") to purchase the Company's common stock (the "Warrant Shares", and together with the Outstanding Shares, the "Shares"), all of which are to be sold by selling stockholders named in the Registration Statement.

We are acting as counsel for the Company in connection with the registration for resale under the Securities Act of the Shares. In such capacity, we have examined originals or copies, certified or otherwise identified to our satisfaction, of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary for the purposes of rendering this opinion. In our examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity with the originals of all documents submitted to us as copies, the authenticity of the originals of such documents and the legal competence of all signatories to such documents.

We express no opinion herein as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware (including the statutory provisions and all applicable judicial decisions interpreting those laws) and the federal laws of the United States of America.

AUSTIN BEIJING BOSTON BOULDER BRUSSELS HONG KONG LONDON LOS ANGELES NEW YORK PALO ALTO  
SALT LAKE CITY SAN DIEGO SAN FRANCISCO SEATTLE SHANGHAI WASHINGTON, DC WILMINGTON, DE

Soleno Therapeutics, Inc.  
October 20, 2023  
Page 2

On the basis of the foregoing, we are of the opinion that (i) the Outstanding Shares have been duly authorized and are validly issued, fully paid and nonassessable, and (ii) the Warrant Shares issuable upon exercise of the outstanding Warrants have been duly authorized by the Company and, when issued and delivered by the Company upon exercise thereof in accordance with the terms of the Warrants, will be validly issued, fully paid and nonassessable.

\* \* \*

We consent to the use of this opinion as an exhibit to the Registration Statement, and we consent to the reference of our name under the caption “Legal Matters” in the prospectus forming part of the Registration Statement. In giving such consent, we do not consider that we are “experts” within the meaning of such term as used in the Securities Act or the rules and regulations of the Commission issued thereunder with respect to any part of the Registration Statement, including this opinion as an exhibit or otherwise.

This opinion is furnished to you in connection with the filing of the Registration Statement, and is not to be used, circulated, quoted or otherwise relied upon for any other purpose.

Very truly yours,

/s/ WILSON SONSINI GOODRICH & ROSATI, PC

WILSON SONSINI GOODRICH & ROSATI  
Professional Corporation

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in this Registration Statement of Soleno Therapeutics, Inc. on Form S-3 of our report, which includes an explanatory paragraph as to the Company's ability to continue as a going concern, dated March 22, 2023, with respect to our audits of the consolidated financial statements of Soleno Therapeutics, Inc. as of December 31, 2022 and 2021 and for each of the two years in the period ended December 31, 2022 appearing in the Annual Report on Form 10-K of Soleno Therapeutics, Inc. for the year ended December 31, 2022. We also consent to the reference to our firm under the heading "Experts" in the Prospectus, which is part of this Registration Statement.

/s/ Marcum LLP

Marcum LLP  
San Francisco, CA  
October 20, 2023



## CALCULATION OF FILING FEE TABLES

FORM S-3  
(Form Type)SOLENO THERAPEUTICS, INC.  
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

	Security Type	Security Class Title	Fee Calculation Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
<b>Fees to be Paid</b>	Equity	Common stock, par value \$0.001 per share	457(c)	3,000,000(1)	\$24.34(2)	\$73,020,000	0.00014760	\$10,777.76
<b>Fees Previously Paid</b>	—	—	—	—	—	—	—	—
	<b>Total Offering Amounts</b>					<b>\$73,020,000</b>		<b>\$10,777.76</b>
	<b>Total Fees Previously Paid</b>							—
	<b>Total Fee Offsets</b>							—
	<b>Net Fee Due</b>							<b>\$10,777.76</b>

- (1) Pursuant to Rule 416(a) of the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of the Registrant's common stock that become issuable by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of the Registrant's outstanding shares of common stock.
- (2) Estimated in accordance with Rule 457(c) solely for purposes of calculating the registration fee on the basis of the average of the high and low prices of the Registrant's common stock as reported on the Nasdaq Capital Market on October 19, 2023.