

**147,000 Shares of Common Stock and Accompanying Common Warrants to Purchase up  
to 1,889,764 Shares of Common Stock**

**Pre-Funded Warrants to Purchase Up to 1,742,764 Shares of Common Stock  
Shares of Common Stock underlying the Prefunded Warrants and Common Warrants**

**Placement Agent Warrants to Purchase Up to 94,488 Shares of Common Stock**

**CNS Pharmaceuticals, Inc.**

We are offering 147,000 shares of common stock, together with warrants to purchase 1,889,764 shares of common stock, which we refer to as “common warrants,” at a combined public offering price of \$3.175 per share and common warrant (and the shares issuable from time to time upon exercise of the common warrants) pursuant to this prospectus. The shares of common stock and common warrants will be separately issued, but the shares of common stock and common warrants will be issued to purchasers in the ratio of one-to-one. Each common warrant will have an exercise price of \$3.03 per share, will be exercisable upon issuance and will expire five years from the date of issuance. This is a “best efforts” offering and we may sell fewer than all of the shares of common stock, warrants and pre-funded warrants offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund if we do not sell all of the securities offered hereby.

We are also offering 1,742,764 pre-funded warrants to certain purchasers whose purchase of shares of common stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock immediately following the consummation of this offering in lieu of shares of common stock that would otherwise result in such purchaser’s beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock. The purchase price of each pre-funded warrant and related common warrant will be equal to the public offering price for the common stock and related common warrant in this offering, minus \$0.001. Each pre-funded warrant is exercisable for one share of our common stock and has an exercise price of \$0.001 per share. For each pre-funded warrant that we sell, the number of shares of common stock we are offering will be reduced on a one-for-one basis.

There is no established public trading market for the pre-funded warrants or common warrants, and we do not expect a market to develop. We do not intend to apply for listing of the pre-funded warrants or common warrants on any securities exchange or other nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants and common warrants will be limited.

This offering will terminate on December 16, 2022, unless we decide to terminate the offering (which we may do at any time in our discretion) prior to that date. We will have one closing for all the securities purchased in this offering. The combined public offering price per share (or pre-funded warrant) and common warrant will be fixed for the duration of this offering.

We have engaged H.C. Wainwright & Co., LLC (“Wainwright”) and Brookline Capital Markets, a division of Arcadia Securities, LLC (“Brookline”) to act as our exclusive placement agents (the “placement agents”) in connection with this offering. Wainwright is acting as exclusive lead placement agent and Brookline is acting as co-placement agent. The placement agents have agreed to use their reasonable best efforts to arrange for the sale of the securities offered by this prospectus. The placement agents are not purchasing or selling any of the securities we are offering and the placement agents are not required to arrange the purchase or sale of any specific number or dollar amount of securities. We have agreed to pay to the placement agents the placement agent fees set forth in the table below, which assumes that we sell all of the securities offered by this prospectus. There is no arrangement for funds to be received in escrow, trust or similar arrangement. There is no minimum number of shares of common stock or pre-funded warrants or minimum aggregate amount of proceeds that is a condition for this offering to close. We may sell fewer than all of the shares of common stock, warrants and pre-funded warrants offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund if we do not sell all of the securities offered hereby. Because there is no escrow account and no minimum number of securities or amount of proceeds, investors could be in a position where they have invested in us, but we have not raised sufficient proceeds in this offering to adequately fund the intended uses of the proceeds as described in this prospectus. We will bear all costs associated with the offering. See “[Plan of Distribution](#)” on page 18 of this prospectus for more information regarding these arrangements.

Our common stock is listed on The Nasdaq Capital Market, or Nasdaq, under the symbol “CNSP”. The last reported sale price of our common stock on Nasdaq on November 30, 2022 was \$3.03 per share. We do not intend to list the common warrants or pre-funded warrants on the NASDAQ Capital Market, any other national securities exchange or any other nationally recognized trading system.

The actual public offering price per share and common warrant and the actual public offering price per pre-funded warrant and common warrant will be determined between us, the placement agents and the investors based on market conditions at the time of pricing, and may be at a discount to the current market price of our common stock.

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

We are an “emerging growth company” as defined in Section 2(a) of the Securities Act of 1933, as amended, and we have elected to comply with certain reduced public company reporting requirements.

Investing in our securities involves a high degree of risk. See the section entitled “[Risk Factors](#)” beginning on page 6 of this prospectus and in the documents incorporated by reference into this prospectus for a discussion of risks that should be considered in connection with an investment in our securities.

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

	Per Share and accompanying Common Warrant	Per Pre-Funded Warrant and accompanying Common Warrant	Total <sup>(2)</sup>
Public offering price	\$ 3.175	\$ 3.174	\$ 5,998,257.94
Placement agent fees <sup>(1)</sup>	\$ 0.222	\$ 0.222	\$ 420,000.05
Proceeds to us, before expenses	\$ 2.953	\$ 2.952	\$ 5,578,257.89

(1)Includes a cash fee of 7.0% of the gross proceeds of this offering. We have also agreed to pay Wainwright a reimbursement for non-accountable expenses equal to \$50,000, a reimbursement for legal fees and expenses of Wainwright in the amount of \$100,000 and for its clearing expenses in the amount of \$15,950. In addition, we have agreed to issue Wainwright, or its designees, warrants to purchase a number of shares of common stock equal to 5.0% of the aggregate number of shares of common stock, including shares of common stock underlying the pre-funded warrants, sold in this offering with an exercise price of \$3.969 per share, or 125% of the public offering price per share. See [“Plan of Distribution”](#) for additional information about the compensation payable to the placement agents.

(2)Reflects the issuance of 147,000 shares of common stock and pre-funded warrants to purchase 1,742,764 shares of common stock. Because there is no minimum offering amount required as a condition to closing in this offering, the actual public offering amount, placement fees and proceeds to us, if any, are not presently determinable and may be substantially less than the total maximum offering amounts set forth above.

The delivery of the securities offered hereby is expected to be made on or about the termination date of the offering, which will be December 16, 2022, subject to satisfaction of certain customary closing conditions.

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

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*Exclusive Lead Placement Agent*

**H.C. Wainwright & Co.**

*Co-Placement Agent*

**Brookline Capital Markets  
a division of Arcadia Securities, LLC**

**The date of this prospectus is November 30, 2022**

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**ABOUT THIS PROSPECTUS**

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

We have not, and the placement agents have not, authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the securities offered hereby, and only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside the United States: We have not, and the placement agents 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 and the distribution of this prospectus outside the United States.

This prospectus and the information incorporated by reference into this prospectus may contain references to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus and the information incorporated by reference into this prospectus, including logos, artwork, and other visual displays, may appear without the ® or TM symbols. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other company.

No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus. You must not rely on any unauthorized information or representations. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date.

This prospectus contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. We obtained the industry and market data in this prospectus from our own research as well as from industry and general publications, surveys and studies conducted by third parties. This data involves a number of assumptions and limitations and contains projections and estimates of the future performance of the industries in which we operate that are subject to a high degree of uncertainty. We caution you not to give undue weight to such projections, assumptions and estimates.

## PROSPECTUS SUMMARY

*This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our securities. You should read this entire prospectus carefully, including the “Risk Factors” section in this prospectus and under similar captions in the documents incorporated by reference into this prospectus. References in this prospectus to “we”, “us”, “its”, “our” or the “Company” are to CNS Pharmaceuticals, Inc., as appropriate to the context.*

### Overview

We are a clinical pharmaceutical company organized as a Nevada corporation in July 2017 to focus on the development of anti-cancer drug candidates for the treatment of brain and central nervous system tumors, based on intellectual property that we license under license agreements with Houston Pharmaceuticals, Inc. (“HPI”) and The University of Texas M.D. Anderson Cancer Center (“UTMDACC”) and own pursuant to a collaboration and asset purchase agreement with Reata Pharmaceuticals, Inc. (“Reata”).

We believe our lead drug candidate, Berubicin, may be a significant development in the treatment of Glioblastoma Multiforme (“Glioblastoma”) and other CNS malignancies, and if approved by the U.S. Food and Drug Administration (“FDA”), could potentially give Glioblastoma patients an important new therapeutic alternative to the current standard of care. Glioblastomas are tumors that arise from astrocytes, which are star-shaped cells making up the supportive tissue of the brain. These tumors are usually highly malignant (cancerous) because the cells reproduce quickly, and they are supported by a large network of blood vessels. Berubicin is an anthracycline, which is a class of drugs that are among the most powerful and extensively used chemotherapy drugs known. Based on limited clinical data, we believe Berubicin is the first anthracycline that appears to cross the blood brain barrier in therapeutic concentrations targeting brain cancer cells. While our focus is currently on the development of Berubicin, we are also in the process of attempting to secure intellectual property rights to additional compounds that we plan to develop into drugs to treat CNS and other cancers.

Berubicin was discovered at UTMDACC by Dr. Waldemar Priebe, our founder. Dr. Priebe served as a member of our scientific advisory board until August 2022. Through a series of transactions, Berubicin was initially licensed to Reata. Reata initiated several Phase I clinical trials with Berubicin for CNS malignancies, one of which was for malignant gliomas, but subsequently allowed their IND with the FDA to lapse for strategic reasons. This required us to obtain a new IND for Berubicin before beginning further clinical trials. On December 17, 2020, we announced that our IND application with the FDA for Berubicin for the treatment of Glioblastoma Multiforme was in effect. We initiated this trial for patient enrollment during the second quarter of 2021 with the first patient dosed during the third quarter of 2021 to investigate the efficacy of Berubicin in adults with Glioblastoma Multiforme who have failed first-line therapy. Correspondence between us and the FDA resulted in modifications to our initial trial design, including designating overall survival (OS) as the primary endpoint of our current CNS-201 trial, which is a global potentially pivotal trial of Berubicin for Glioblastoma. OS is a rigorous endpoint that the FDA has recognized as a basis for approval of oncology drugs when a statistically significant improvement can be shown relative to a randomized control arm.

The current CNS-201 trial being conducted will evaluate the efficacy of Berubicin in patients with Glioblastoma Multiforme who have failed primary treatment for their disease, and results will be compared to the efficacy of Lomustine, a current standard of care in this setting, with a 2 to 1 randomization of the estimated 243 patients to Berubicin or Lomustine. Patients receiving Berubicin will be administered a 2-hour IV infusion of 7.5 mg/m<sup>2</sup> berubicin hydrochloride daily for three consecutive days followed by 18 days off (a 21-day cycle). Lomustine is administered orally once every six weeks. The trial will include an interim analysis that will evaluate the comparative effectiveness of these treatments, which is an adaptive design intended to demonstrate that there are no differences in efficacy between treatments (futility analysis). Even if Berubicin is approved, there is no assurance that patients will choose an infusion treatment, as compared to the current standard of care, which requires oral administration. We estimate that the remaining cost of our CNS-201 trial will be approximately \$20-\$24 million.

We do not have manufacturing facilities and all manufacturing activities are contracted out to third parties. Additionally, we do not have a sales organization.

On November 21, 2017, we entered into a Collaboration and Asset Purchase Agreement with Reata (the “Reata Agreement”). Pursuant to the Reata Agreement, we purchased all of Reata’s intellectual property and development data regarding Berubicin, including all trade secrets, knowhow, confidential information and other intellectual property rights.

On December 28, 2017, we obtained the rights to a worldwide, exclusive royalty-bearing, license to the chemical compound commonly known as Berubicin from HPI in an agreement we refer to as the HPI License. HPI is affiliated with Dr. Priebe. Under the HPI License we obtained the exclusive right to develop certain chemical compounds for use in the treatment of cancer anywhere in the world. In the HPI License we agreed to pay HPI: (i) development fees of \$750,000 over a three-year period beginning November 2019; (ii) a 2% royalty on net sales; (iii) a \$50,000 per year license fee; (iv) milestone payments of \$100,000 upon the commencement of a Phase II trial and \$1.0 million upon the approval of a New Drug Application (“NDA”) for Berubicin; and (v) 200,000 shares of our common stock. The patents we licensed from HPI expired in March 2020.

On June 10, 2020, the FDA granted Orphan Drug Designation (“ODD”) for Berubicin for the treatment of malignant gliomas. ODD from the FDA is available for drugs targeting diseases with less than 200,000 cases per year. ODD may enable market exclusivity of 7 years from the date of approval of a NDA in the United States.

During that period the FDA generally could not approve another product containing the same drug for the same designated indication. Orphan drug exclusivity will not bar approval of another product under certain circumstances, including if a subsequent product with the same active ingredient for the same indication is shown to be clinically superior to the approved product on the basis of greater efficacy or safety, or providing a major contribution to patient care, or if the company with orphan drug exclusivity is not able to meet market demand. The ODD now constitutes our primary intellectual property protections although we are exploring if there are other patents that could be filed related to Berubicin to extend additional protections.

On January 10, 2020, we entered into a Patent and Technology License Agreement (the “1244 Agreement”) with The Board of Regents of The University of Texas System, an agency of the State of Texas, on behalf of the UTMDACC. Pursuant to the 1244 Agreement, we obtained a royalty-bearing, worldwide, exclusive license to certain intellectual property rights, including patent rights, related to our portfolio of WP1244 drug technology. In consideration, we must make payments to UTMDACC including an up-front license fee, annual maintenance fee, milestone payments and royalty payments (including minimum annual royalties) for sales of licensed products developed under the 1244 Agreement. The term of the 1244 Agreement expires on the last to occur of: (a) the expiration of all patents subject to the 1244 Agreement, or (b) fifteen years after execution; provided that UTMDACC has the right to terminate the 1244 Agreement in the event that we fail to meet certain commercial diligence milestones.

On May 7, 2020, pursuant to the WP1244 portfolio license agreement described above, we entered into a Sponsored Research Agreement with UTMDACC to perform research relating to novel anticancer agents targeting CNS malignancies. We agreed to fund approximately \$1,134,000 over a two-year period. We paid and recorded \$334,000 in 2020 related to this agreement in research and development expenses in our Statements of Operations. The remaining \$800,000 was paid in 2021. The principal investigator for this agreement is Dr. Priebe. The work conducted under this Sponsored Research Agreement has produced a new mesylate salt of WP1244 termed WP1874. We believe the enhanced solubility of this salt may increase its ability to be formulated for use in an IV infusion, while maintaining similar potency and toxicity characteristics. As such, WP1874 will be the primary focus in our development efforts of the WP1244 portfolio.

## **Recent Developments**

### *Nasdaq*

On February 18, 2022, we received a deficiency letter from the Listing Qualifications Department (the “Staff”) of the Nasdaq Stock Market (“Nasdaq”) notifying us that for the last 30 consecutive business days the bid price for our common stock had closed below the minimum \$1.00 per share requirement for continued inclusion on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2) (the “Bid Price Rule”).

In accordance with Nasdaq Listing Rule 5810(c)(3)(A) (the “Compliance Period Rule”), we were provided an initial period of 180 calendar days to regain compliance with the Bid Price Rule. We requested an additional 180 days in which to regain compliance, including by effecting a reverse stock split, if necessary, and, on August 18, 2022, we received notice from Nasdaq informing us that we had been granted an additional 180-day period, or until February 13, 2023, to regain compliance with the minimum bid price requirement. If we do not regain compliance with the Bid Price Rule by February 13, 2023, the Staff will provide written notification to us that our common stock will be delisted. We would then be entitled to appeal the Staff’s determination to a NASDAQ Hearings Panel and request a hearing.

### *Reverse Stock Split*

On August 26, 2022, we announced the results of our 2022 Annual Meeting of Stockholders. At the annual meeting, our stockholders approved an amendment to our amended and restated articles of incorporation (the “Amendment”) to effect a reverse stock split of the outstanding shares of our common stock, at a split ratio of between 1-for-2 and 1-for-30 as determined by our Board of Directors in their sole discretion, prior to the one-year anniversary of the annual meeting.

Pursuant to such authority granted by our stockholders, our board of directors approved a one-for-thirty (1:30) reverse stock split of our common stock and the filing of the Amendment to effectuate the reverse stock split. The Amendment was filed with the Secretary of State of the State of Nevada and the reverse stock split became effective in accordance with the terms of the Amendment at 4:01 p.m. Eastern Time on November 28, 2022 (the “Effective Time”). The Amendment provides that, at the Effective Time, every thirty shares of our issued and outstanding common stock will automatically be combined into one issued and outstanding share of common stock, without any change in par value per share, which will remain \$0.001.

### *Cash and Cash Equivalents*

As of September 30, 2022, we had \$7.0 million of cash and cash equivalents.

## **Company Information**

Our principal executive offices are located at 2100 West Loop South, Suite 900, Houston, TX 77027. Our website address is [www.cnspharma.com](http://www.cnspharma.com). The information on or accessible through our website is not part of this prospectus.

Common stock we are offering	147,000 shares of our common stock on a “best efforts” basis.
Pre-funded warrants we are offering	We are also offering 1,742,764 pre-funded warrants to certain purchasers whose purchase of shares of common stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock immediately following the closing of this offering in lieu of shares of common stock that would otherwise result in any such purchaser’s beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock. Each pre-funded warrant is exercisable for one share of our common stock. The purchase price of each pre-funded warrant and common warrant is equal to the price at which a share of common stock and common warrant is being sold to the public in this offering, minus \$0.001, and the exercise price of each pre-funded warrant is \$0.001 per share. The pre-funded warrants are exercisable immediately and may be exercised at any time until all of the pre-funded warrants are exercised in full. This offering also relates to the shares of common stock issuable upon exercise of any pre-funded warrants sold in this offering.
Common warrants we are offering	We are issuing to purchasers of shares of our common stock and/or pre-funded warrants in this offering a common warrant to purchase one share of our common stock for each share and/or pre-funded warrant purchased in this offering for a combined purchase price of \$3.03. We refer to these warrants as the “common warrants”. The combined purchase price per share (or pre-funded warrant) and common warrant will be fixed for the duration of this offering. Because a common warrant to purchase share(s) of our common stock is being sold together in this offering with each share of common stock and, in the alternative, each pre-funded warrant to purchase one share of common stock, the number of common warrants sold in this offering will not change as a result of a change in the mix of the shares of our common stock and pre-funded warrants sold. Each common warrant will have an exercise price of \$3.03 per share, will be exercisable upon issuance and will expire five years from the date of issuance. See “ <a href="#">Description of Common Warrants.</a> ” This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the common warrants.
Term of the offering	This offering will terminate on December 16, 2022, unless we decide to terminate the offering (which we may do at any time in our discretion) prior to that date.
Common stock outstanding immediately before this offering	1,334,562 shares (as adjusted for the reverse stock split described above)
Common stock outstanding immediately after this offering	3,224,326 shares, assuming the full exercise of the 1,742,764 pre-funded warrants and assuming none of the common warrants or placement agent warrants issued in this offering are exercised.
Use of proceeds	We estimate that the net proceeds from this offering will be approximately \$5.4 million at a public offering price of \$3.175 per share, after deducting the placement agent fees and estimated offering expenses payable by us.  We intend to use the proceeds from this offering primarily to fund our CNS-201 trial, which is a global potentially pivotal trial of Berubicin for Glioblastoma, for other research and development, and for working capital. See “ <a href="#">Use of Proceeds.</a> ”

Risk Factors	An investment in our securities involves a high degree of risk. See “ <a href="#">Risk Factors</a> ” beginning on page 6 of this prospectus and the other information included and incorporated by reference in this prospectus for a discussion of the risk factors you should carefully consider before deciding to invest in our securities.
Nasdaq listing symbol	Our common stock is listed on The Nasdaq Capital Market under the symbol “CNSP.” There is no established trading market for the common warrants or pre-funded warrants and we do not expect a market to develop. In addition, we do not intend to apply for the listing of the common warrants or pre-funded warrants on any national securities exchange or other trading market. Without an active trading market, the liquidity of the common warrants and pre-funded warrants will be limited.

The number of shares of common stock to be outstanding after this offering (as adjusted for the reverse stock split described above) is based on 1,334,562 shares outstanding as of September 30, 2022, and does not give effect to the shares of common stock issuable upon exercise of the pre-funded warrants being offered by us in this offering, as well as:

- 524,002 shares of common stock underlying outstanding warrants at a weighted average exercise price of \$33.30 per share;
- 93,001 shares of common stock underlying outstanding options with a weighted average exercise price of \$67.42 per share, which options vest over a three to four-year period;
- 38,088 shares of common stock underlying Restricted Stock Units which vest over a four-year period and Performance Units which vest based on our performance against predefined share price targets and the achievement of Positive Interim, Clinical Data as defined by the Board;
- 35,586 shares available for future issuance under the CNS Pharmaceuticals, Inc. 2020 Stock Plan; and
- the shares of common stock issuable upon exercise of the pre-funded warrants, the common warrants and the placement agent warrants issued in this offering.

Except as otherwise indicated, the information in this prospectus assumes no exercise of options or exercise of warrants, and, unless otherwise noted, all share and per share numbers contained in this prospectus are reflected on a post-split basis for all periods presented.

## RISK FACTORS

*Investing in our securities involves a high degree of risk. Before investing in our securities, you should consider carefully the risks and uncertainties discussed under “Risk Factors” in our latest annual report on Form 10-K and subsequent quarterly reports on Form 10-Q and current reports on Form 8-K, which are incorporated by reference herein in their entirety. You should carefully consider each of the following risks, together with all other information set forth in this prospectus, including the financial statements and the related notes, before making a decision to buy our securities. If any of the following risks actually occurs, our business could be harmed. In that case, the trading price of our common stock could decline, and you may lose all or part of your investment.*

### Risks Related to this Offering

***We have broad discretion in how we use the proceeds of this offering and may not use these proceeds effectively, which could affect our results of operations and cause our common stock to decline.***

We will have considerable discretion in the application of the net proceeds of this offering. We intend to use the net proceeds from this offering primarily to fund our CNS-201 trial, which is a global potentially pivotal trial of Berubicin for Glioblastoma, for other research and development, and for working capital. As a result, investors will be relying upon management’s judgment with only limited information about our specific intentions for the use of the net proceeds of this offering. We may use the net proceeds for purposes that do not yield a significant return or any return at all for our stockholders. In addition, pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

***If our stock price fluctuates after the offering, you could lose a significant part of your investment.***

The market price of our common stock could be subject to wide fluctuations in response to, among other things, the risk factors described in this prospectus, and other factors beyond our control, such as fluctuations in the valuation of companies perceived by investors to be comparable to us. Furthermore, the stock markets have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political, and market conditions, such as recessions, interest rate changes or international currency fluctuations, may negatively affect the market price of our common stock. In the past, many companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management’s attention from other business concerns, which could seriously harm our business.

***We will require substantial funding, which may not be available to us on acceptable terms, or at all, and, if not so available, may require us to delay, limit, reduce or cease our operations.***

We are using the proceeds from our IPO and subsequent funding to, among other uses, advance Berubicin through clinical development, including our current CNS-201 trial, which is a global potentially pivotal trial of Berubicin for Glioblastoma. Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is expensive. We will require substantial additional future capital in order to complete clinical development and commercialize Berubicin. If the FDA requires that we perform additional nonclinical studies or clinical trials, our expenses would further increase beyond what we currently expect and the anticipated timing of any potential approval of Berubicin would likely be delayed. Further, there can be no assurance that the costs we will need to incur to obtain regulatory approval of Berubicin will not increase.

We will continue to require substantial additional capital to continue our clinical development and commercialization activities. Because successful development of our product candidates is uncertain, we are unable to estimate the actual amount of funding we will require to complete research and development and commercialize our products under development.

We estimate that we will require additional financing of approximately \$13.0 to \$17.0 million (taking into account our cash on hand as of September 30, 2022 of approximately \$7.0 million, but before taking into account the expected proceeds from this offering) to complete the CNS-201 trial, which is a global potentially pivotal trial of Berubicin for Glioblastoma, approximately \$5.0 million to support near-term WP1244/WP1874 preclinical work, plus such additional working capital to fund our operations during the pendency of the trial. We believe that our existing cash and cash equivalents as of September 30, 2022 plus the proceeds from this offering will be sufficient to meet our projected operating requirements into the third quarter of 2023 and beyond our interim analysis expected at approximately mid-year 2023. Such projections are subject to changes in our internally funded preclinical and clinical activities, including unplanned preclinical and clinical activity. The timing and costs of clinical trials are difficult to predict and as such the foregoing estimates may prove to be inaccurate. We have no commitments for such additional needed financing and will likely be required to raise such financing through the sale of additional equity or debt securities.

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

- whether our planned interim futility analysis of our CNS-201 global clinical trials of Berubicin in Glioblastoma demonstrates clinical benefit of at least equivalence versus the Lomustine control arm results;
- whether our plan for clinical trials will be completed on a timely basis;
- whether we are successful in obtaining an accelerated approval pathway with the FDA related to Berubicin;
- the progress, costs, results of and timing of our clinical trials for Berubicin;
- the outcome, costs and timing of seeking and obtaining FDA and any other regulatory approvals;
- the costs associated with securing and establishing commercialization and manufacturing capabilities;
- market acceptance of our product candidates;
- the costs of acquiring, licensing or investing in businesses, products, product candidates and technologies;
- our ability to maintain, expand and enforce the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make, or that we may receive, in connection with the licensing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights;
- our need and ability to hire additional management and scientific and medical personnel;
- the effect of competing drug candidates and new product approvals;
- our need to implement additional internal systems and infrastructure, including financial and reporting systems; and
- the economic and other terms, timing of and success of our existing licensing arrangements and any collaboration, licensing or other arrangements into which we may enter in the future.

Some of these factors are outside of our control. We may seek additional funding through a combination of equity offerings, debt financings, government or other

third-party funding, commercialization, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements. Additional funding may not be available to us on acceptable terms or at all. In addition, the terms of any financing may adversely affect the holdings or the rights of our stockholders.

If we are unable to obtain funding on a timely basis, we may be required to significantly curtail one or more of our research or development programs. We also could be required to seek funds through arrangements with collaborative partners or otherwise that may require us to relinquish rights to some of our technologies or product candidates or otherwise agree to terms unfavorable to us.

***Your ownership may be diluted if additional capital stock is issued to raise capital, to finance acquisitions or in connection with strategic transactions.***

We will require additional, substantial financing in order to complete our clinical trials. We intend to seek to raise additional funds for our operations, to finance acquisitions or to develop strategic relationships by issuing equity or convertible debt securities in addition to the securities issued in this offering, which would reduce the percentage ownership of our existing stockholders. Our board of directors has the authority, without action or vote of the stockholders, to issue all or any part of our authorized but unissued shares of common or preferred stock. Our articles of incorporation authorize us to issue up to 75,000,000 shares of common stock and 5,000,000 shares of preferred stock. Future issuances of common or preferred stock would reduce your influence over matters on which stockholders vote and would be dilutive to earnings per share. In addition, any newly issued preferred stock could have rights, preferences and privileges senior to those of the common stock. Those rights, preferences and privileges could include, among other things, the establishment of dividends that must be paid prior to declaring or paying dividends or other distributions to holders of our common stock or providing for preferential liquidation rights. These rights, preferences and privileges could negatively affect the rights of holders of our common stock, and the right to convert such preferred stock into shares of our common stock at a rate or price that would have a dilutive effect on the outstanding shares of our common stock.

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

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

***Holders of our common warrants and pre-funded warrants will have no rights as a common stockholder until they acquire our common stock.***

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

***If we do not maintain a current and effective prospectus relating to the common stock issuable upon exercise of the common warrants and pre-funded warrants, public holders will only be able to exercise such common warrants and pre-funded warrants on a "cashless basis."***

If we do not maintain a current and effective prospectus relating to the shares of common stock issuable upon exercise of the common warrants and pre-funded warrants at the time that holders wish to exercise such warrants, they will only be able to exercise them on a "cashless basis," and under no circumstances would we be required to make any cash payments or net cash settle such warrants to the holders. As a result, the number of shares of common stock that holders will receive upon exercise of the common warrants and pre-funded warrants will be fewer than it would have been had such holders exercised their common warrants or pre-funded warrants for cash. We will do our best efforts to maintain a current and effective prospectus relating to the shares of common stock issuable upon exercise of such warrants until the expiration of such warrants. However, we cannot assure you that we will be able to do so. If we are unable to do so, the potential "upside" of the holder's investment in our company may be reduced.

***The common warrants are speculative in nature.***

The common warrants offered hereby do not confer any rights of common stock ownership on their holders, such as voting rights or the right to receive dividends, but rather merely represent the right to acquire shares of common stock at a fixed price. Specifically, commencing on the date of issuance, holders of the common warrants may acquire the common stock issuable upon exercise of such warrants at an exercise price of \$3.03 per share of common stock. Moreover, following this offering, the market value of the common warrants will be uncertain and there can be no assurance that the market value of the common warrants will equal or exceed their public offering price. There can be no assurance that the market price of the common stock will ever equal or exceed the exercise price of the common warrants, and consequently, whether it will ever be profitable for holders of the common warrants to exercise the common warrants.

***This is a "best efforts" offering. No minimum amount of securities is required to be sold, and we may not raise the amount of capital we believe is required for our business plans, including our near-term business plans.***

The placement agents have agreed to use their reasonable best efforts to solicit offers to purchase the securities in this offering. The placement agents have no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of the securities. There is no required minimum number of securities that must be sold as a condition to completion of this offering. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth above. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to support our continued operations, including our near-term continued operations.

***We may be required to repurchase the common warrants, which may prevent or deter a third party from acquiring us.***

The common warrants provide that in the event of a "Fundamental Transaction" (as defined in the related warrant agreement, which generally includes any merger with another entity, the sale, transfer or other disposition of all or substantially all of our assets to another entity, or the acquisition by a person of more than 50% of our common stock), each common warrant holder will have the right at any time prior to the consummation of the Fundamental Transaction to require us to repurchase the common warrant for a purchase price in cash equal to the Black-Scholes value (as calculated under the warrant agreement) of the then remaining unexercised portion of such common

warrant on the date of such Fundamental Transaction, which may materially adversely affect our financial condition and/or results of operations and may prevent or deter a third party from acquiring us.

*We completed a reverse stock split on November 28, 2022 in an effort to regain compliance with Nasdaq listing rules and we cannot predict the effect that such reverse stock split will have on the market price for shares of our common stock.*

On February 18, 2022, we received a deficiency letter from Nasdaq notifying us that for the last 30 consecutive business days the bid price for our common stock had closed below the minimum \$1.00 per share requirement for continued inclusion on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2) (the “Bid Price Rule”). We have until February 13, 2023 to regain compliance with the Bid Price Rule.

Our board of directors approved a one-for-thirty (1:30) reverse stock split of our common stock, which became effective at 4:01 p.m. Eastern Time on November 28, 2022, in order to regain compliance with the Bid Price Rule. We cannot predict the effect that the reverse stock split will have on the market price for shares of our common stock, and the history of similar reverse stock splits for companies in like circumstances has varied. Some investors may have a negative view of a reverse stock split. Even if the reverse stock split has a positive effect on the market price for shares of our common stock, performance of our business and financial results, general economic conditions and the market perception of our business, and other adverse factors which may not be in our control could lead to a decrease in the price of our common stock following the reverse stock split.

Furthermore, even if the reverse stock split does result in an increased market price per share of our common stock, the market price per share following the reverse stock split may not increase in proportion to the reduction of the number of shares of our common stock outstanding before the implementation of the reverse stock split. Accordingly, even with an increased market price per share, the total market capitalization of shares of our common stock after a reverse stock split could be lower than the total market capitalization before the reverse stock split. Also, even if there is an initial increase in the market price per share of our common stock after a reverse stock split, the market price may not remain at that level.

If the market price of shares of our common stock declines following the reverse stock split, the percentage decline as an absolute number and as a percentage of our overall market capitalization may be greater than would occur in the absence of the reverse stock split due to decreased liquidity in the market for our common stock. Accordingly, the total market capitalization of our common stock following the reverse stock split could be lower than the total market capitalization before the reverse stock split.

#### CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, and any documents we incorporate by reference, contain certain forward-looking statements that involve substantial risks and uncertainties. All statements contained in this prospectus and any documents we incorporate by reference, other than statements of historical facts, are forward-looking statements including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

The words “anticipate”, “believe”, “estimate”, “expect”, “intend”, “may”, “plan”, “predict”, “project”, “target”, “potential”, “will”, “would”, “could”, “should”, “continue” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, among other things, statements about:

- our ability to obtain additional funding to develop our product candidates;
- the need to obtain regulatory approval of our product candidates;
- the success of our clinical trials through all phases of clinical development;
- compliance with obligations under intellectual property licenses with third parties;
- any delays in regulatory review and approval of product candidates in clinical development;
- our ability to commercialize our product candidates;
- market acceptance of our product candidates;
- competition from existing products or new products that may emerge;
- potential product liability claims;
- our dependency on third-party manufacturers to supply or manufacture our products;
- our ability to establish or maintain collaborations, licensing or other arrangements;
- our ability and third parties’ abilities to protect intellectual property rights;
- our ability to adequately support future growth; and
- our ability to attract and retain key personnel to manage our business effectively.

These forward-looking statements are only predictions and we may not actually achieve the plans, intentions or expectations disclosed in our forward-looking

statements, so you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our business, financial condition and operating results. We have included important factors in the cautionary statements included in this prospectus that could cause actual future results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this prospectus with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements whether as a result of new information, future events or otherwise, except as required by applicable law.

#### USE OF PROCEEDS

We estimate that the net proceeds from the offering will be approximately \$5.4 million, assuming the sale of all the securities offered under this prospectus, after deducting the placement agent fees and estimated offering expenses payable by us. However, because this is a “best efforts” offering and there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, the placement agents’ fees and net proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth on the cover page of this prospectus. The combined public offering price per share (or pre-funded warrant) and common warrant will be fixed for the duration of this offering.

We intend to use the net proceeds for (i) our CNS-201 trial, which is a global potentially pivotal trial of Berubicin for Glioblastoma; (ii) other research and development; and (iii) working capital.

We estimate that our CNS-201 trial will cost approximately \$20-\$24 million and, as such, we will require significant additional financing even if we complete the maximum offering hereunder. We believe that our existing cash and cash equivalents as of September 30, 2022 plus the proceeds from this offering will be sufficient to meet our projected operating requirements into the third quarter of 2023 and beyond our interim analysis expected at approximately mid-year 2023. Such projections are subject to changes in our internally funded preclinical and clinical activities, including unplanned preclinical and clinical activity. The timing and costs of clinical trials are difficult to predict and as such the foregoing estimates may prove to be inaccurate. We have no commitments for such additional needed financing, and will likely be required to raise such financing through the sale of additional equity securities, which may occur at prices lower than the offering price of our common stock in this offering.

As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Accordingly, our management will have broad discretion in the application of these proceeds. Net offering proceeds not immediately applied to the uses summarized above will be invested in short-term investments such as money market funds, commercial paper, U.S. treasury bills and similar securities investments pending their use.

#### DESCRIPTION OF CAPITAL STOCK

*The following summary of the rights of our capital stock is not complete and is subject to and qualified in its entirety by reference to our articles of incorporation and bylaws, copies of which are filed as exhibits to the registration statement of which this prospectus forms a part, which are incorporated by reference herein, and the applicable provisions of the Nevada Revised Statutes.*

Our amended and restated articles of incorporation authorize us to issue up to 75,000,000 shares of common stock and 5,000,000 shares of preferred stock. As of September 30, 2022, we have 1,334,562 shares of common stock outstanding (as adjusted for the reverse stock split described above).

##### **Common Stock**

Shares of our common stock have the following rights, preferences and privileges:

##### *Voting*

Each holder of common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of stockholders. Any action at a meeting at which a quorum is present will be decided by a majority of the voting power present in person or represented by proxy, except in the case of any election of directors, which will be decided by a plurality of votes cast. There is no cumulative voting.

##### *Dividends*

Holders of our common stock are entitled to receive dividends when, as and if declared by our board of directors out of funds legally available for payment, subject to the rights of holders, if any, of any class of stock having preference over the common stock. Any decision to pay dividends on our common stock will be at the discretion of our board of directors. Our board of directors may or may not determine to declare dividends in the future. The board’s determination to issue dividends will depend upon our profitability and financial condition any contractual restrictions, restrictions imposed by applicable law and the SEC, and other factors that our board of directors deems relevant.

##### *Liquidation Rights*

In the event of a voluntary or involuntary liquidation, dissolution or winding up of the Company, the holders of our common stock will be entitled to share ratably on the basis of the number of shares held in any of the assets available for distribution after we have paid in full, or provided for payment of, all of our debts and after the holders of all outstanding series of any class of stock have preference over the common stock, if any, have received their liquidation preferences in full.

## Other

Our issued and outstanding shares of common stock are fully paid and nonassessable. Holders of shares of our common stock are not entitled to preemptive rights. Shares of our common stock are not convertible into shares of any other class of capital stock, nor are they subject to any redemption or sinking fund provisions.

## Preferred Stock

We are authorized to issue up to 5,000,000 shares of preferred stock. We have no shares of preferred stock outstanding. Our articles of incorporation authorizes the board to issue these shares in one or more series, to determine the designations and the powers, preferences and relative, participating, optional or other special rights and the qualifications, limitations and restrictions thereof, including the dividend rights, conversion or exchange rights, voting rights (including the number of votes per share), redemption rights and terms, liquidation preferences, sinking fund provisions and the number of shares constituting the series. Our board of directors could, without stockholder approval, issue preferred stock with voting and other rights that could adversely affect the voting power and other rights of the holders of common stock and which could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, a majority of our outstanding voting stock.

## January 2022 Warrants

In January 2022, we entered into a Securities Purchase Agreement (the “January 2022 Purchase Agreement”) with several institutional investors for the sale of (i) 316,316 shares common stock, (ii) pre-funded warrants (the “January 2022 Pre-Funded Warrants”) to purchase up to an aggregate of 87,193 shares of common stock, and (iii) warrants to purchase up to an aggregate of 403,509 shares of common stock (the “January 2022 Common Warrants”) in a private placement offering. The combined purchase price of one share of common stock (or one January 2022 Pre-Funded Warrant) and accompanying January 2022 Common Warrant was \$28.50.

Each January 2022 Pre-Funded Warrant was exercisable into one share of common stock at a price per share of \$0.03. As of the date hereof, all January 2022 Pre-Funded Warrants have been exercised.

Each January 2022 Common Warrant is exercisable into one share of common stock at a price per share of \$24.60 (as adjusted from time to time in accordance with the terms thereof) and will expire on the fifth anniversary of the date of issuance.

We also issued to H.C. Wainwright & Co., LLC or its designees warrants to purchase up to 5.0% of the aggregate number of shares of common stock sold in the transactions (the “January 2022 Placement Agent Warrants”), or 20,176 January 2022 Placement Agent Warrants. The January 2022 Placement Agent Warrants have substantially the same terms as the January 2022 Common Warrants, except that the January 2022 Placement Agent Warrants have an exercise price equal to 125% of the offering price, or \$35.6250 per share.

## December 2020 Warrants

In December 2020, we completed an underwritten offering of an aggregate of (i) 191,667 shares of our common stock, and (ii) warrants to purchase 95,834 shares of common stock (the “December 2020 Warrants”). The December 2020 Warrants expire on December 28, 2025 and have an exercise price of \$66.00 per share (as adjusted from time to time in accordance with the terms thereof) and will expire on the fifth anniversary of the date of issuance.

## Articles of Incorporation and Bylaw Provisions

Our articles of incorporation and bylaws include a number of anti-takeover provisions that may have the effect of encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include:

*Advance Notice Requirements.* Our bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of stockholders. These procedures provide that notice of stockholder proposals must be timely and given in writing to our corporate Secretary. Generally, to be timely, notice must be received at our principal executive offices not fewer than 120 calendar days prior to the first anniversary date on which our notice of meeting and related proxy statement were mailed to stockholders in connection with the previous year’s annual meeting of stockholders. The notice must contain the information required by the bylaws, including information regarding the proposal and the proponent.

*Special Meetings of Stockholders.* Our bylaws provide that special meetings of stockholders may be called at any time by only the Chairman of the Board, the Chief Executive Officer, the President or the board of directors, or in their absence or disability, by any vice president.

*Amendment of Bylaws.* Our stockholders may amend any provisions of our bylaws by obtaining the affirmative vote of the holders of a majority of each class of issued and outstanding shares of our voting securities, at a meeting called for the purpose of amending and/or restating our bylaws.

*Preferred Stock.* Our articles of incorporation authorizes our board of directors to create and issue rights entitling our stockholders to purchase shares of our stock or other securities. The ability of our board to establish the rights and issue substantial amounts of preferred stock without the need for stockholder approval may delay or deter a change in control of us. See “[Preferred Stock](#)” above.

## Nevada Takeover Statute

The Nevada Revised Statutes contain provisions governing the acquisition of a controlling interest in certain Nevada corporations. Nevada’s “acquisition of controlling interest” statutes (NRS 78.378 through 78.3793, inclusive) contain provisions governing the acquisition of a controlling interest in certain Nevada corporations. These “control share” laws provide generally that any person that acquires a “controlling interest” in certain Nevada corporations may be denied voting rights, unless a majority of the disinterested stockholders of the corporation elects to restore such voting rights. These laws will apply to us if we were to have 200 or more stockholders of record (at least 100 of whom have addresses in Nevada appearing on our stock ledger) and do business in the State of Nevada directly or through an affiliated corporation, unless our articles of incorporation or bylaws in effect on the tenth day after the acquisition of a controlling interest provide otherwise. These laws provide that a person acquires a “controlling interest” whenever a person acquires shares of a subject corporation that, but for the application of these provisions of the NRS, would enable that person to exercise (1) one-fifth or more, but less than one-third, (2) one-third or more, but less than a majority or (3) a majority or more, of all of the voting power of the corporation in the election of directors. Once an acquirer crosses one of these thresholds, shares which it acquired in the transaction taking it over the threshold and within the 90 days immediately preceding

the date when the acquiring person acquired or offered to acquire a controlling interest become “control shares” to which the voting restrictions described above apply. These laws may have a chilling effect on certain transactions if our amended and restated articles of incorporation or amended and restated bylaws are not amended to provide that these provisions do not apply to us or to an acquisition of a controlling interest, or if our disinterested stockholders do not confer voting rights in the control shares.

Nevada’s “combinations with interested stockholders” statutes (NRS 78.411 through 78.444, inclusive) provide that specified types of business “combinations” between certain Nevada corporations and any person deemed to be an “interested stockholder” of the corporation are prohibited for two years after such person first becomes an “interested stockholder” unless the corporation’s board of directors approves the combination (or the transaction by which such person becomes an “interested stockholder”) in advance, or unless the combination is approved by the board of directors and 60% of the corporation’s voting power not beneficially owned by the interested stockholder, its affiliates and associates. Furthermore, in the absence of prior approval certain restrictions may apply even after such two-year period. For purposes of these statutes, an “interested stockholder” is any person who is (1) the beneficial owner, directly or indirectly, of 10% or more of the voting power of the outstanding voting shares of the corporation, or (2) an affiliate or associate of the corporation and at any time within the two previous years was the beneficial owner, directly or indirectly, of 10% or more of the voting power of the then-outstanding shares of the corporation. The definition of the term “combination” is sufficiently broad to cover most significant transactions between a corporation and an “interested stockholder”. These laws generally apply to Nevada corporations with 200 or more stockholders of record. However, a Nevada corporation may elect in its articles of incorporation not to be governed by these particular laws, but if such election is not made in the corporation’s original articles of incorporation, the amendment (1) must be approved by the affirmative vote of the holders of stock representing a majority of the outstanding voting power of the corporation not beneficially owned by interested stockholders or their affiliates and associates, and (2) is not effective until 18 months after the vote approving the amendment and does not apply to any combination with a person who first became an interested stockholder on or before the effective date of the amendment. We have not made such an election in our original articles of incorporation or in our amended and restated articles of incorporation.

#### **Limitations on Liability and Indemnification of Officers and Directors**

Our articles of incorporation and bylaws limit the liability of our officers and directors and provide that we will indemnify our officers and directors, in each case, to the fullest extent permitted by the Nevada Revised Statutes.

#### **Listing**

Our common stock is listed on the Nasdaq Capital Market under the symbol “CNSP”.

#### **Transfer Agent**

The transfer agent for our common stock is Continental Stock Transfer and Trust.

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### **DESCRIPTION OF PRE-FUNDED WARRANTS**

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

**Form.** The pre-funded warrants will be issued as individual warrant agreements to the investors. You should review the form of pre-funded warrant, filed as an exhibit to the registration statement of which this prospectus forms a part, for a complete description of the terms and conditions applicable to the pre-funded warrants.

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

**Duration and Exercise Price.** The exercise price per whole share of our common stock purchasable upon the exercise of the pre-funded warrants is \$0.001 per share of common stock. The pre-funded warrants will be immediately exercisable and may be exercised at any time until the pre-funded warrants are exercised in full. The exercise price of the pre-funded warrants is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock and also upon any distributions of assets, including cash, stock or other property to our stockholders.

**Cashless Exercise.** If, at any time after the holder’s purchase of pre-funded warrants, such holder exercises its pre-funded warrants and a registration statement registering the issuance of the shares of common stock underlying the pre-funded warrants under the Securities Act is not then effective or available (or a prospectus is not available for the resale of shares of common stock underlying the pre-funded warrants), then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder shall instead receive upon such exercise (either in whole or in part) only the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants. Notwithstanding anything to the contrary, in the event we do not have or maintain an effective registration statement, there are no circumstances that would require us to make any cash payments or net cash settle the pre-funded warrants to the holders.

**Transferability.** Subject to applicable laws, the pre-funded warrants may be offered for sale, sold, transferred or assigned at the option of the holder upon surrender of the pre-funded warrant to us together with the appropriate instruments of transfer.

**Exchange Listing.** We do not plan on applying to list the pre-funded warrants on the Nasdaq Capital Market, any other national securities exchange or any other nationally recognized trading system.

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

**Rights as a Stockholder.** Except by virtue of such holder’s ownership of shares of our common stock, the holder of a pre-funded warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the pre-funded warrant.

## DESCRIPTION OF COMMON WARRANTS

*The following summary of certain terms and provisions of common warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the common warrant, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part.*

**Form.** The common warrants will be issued as individual warrant agreements to the investors. You should review the form of common warrant, filed as an exhibit to the registration statement of which this prospectus forms a part, for a complete description of the terms and conditions applicable to the common warrants.

**Exercisability.** The common warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full in immediately available funds for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as described below). A holder (together with its affiliates) may not exercise any portion of the common warrant to the extent that the holder would own more than 4.99% (or, at the election of the holder, 9.99%) of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's common warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the common warrants. Purchasers of common warrants in this offering may also elect prior to the issuance of the common warrants to have the initial exercise limitation set at 9.99% of our outstanding common stock. No fractional shares of common stock will be issued in connection with the exercise of a common warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price.

**Duration and Exercise Price.** The exercise price per whole share of our common stock purchasable upon the exercise of the common warrants is \$3.03 per share of common stock. The common warrants will be immediately exercisable and may be exercised for a period of five years after issuance. The exercise price of the common warrants is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock and also upon any distributions of assets, including cash, stock or other property to our stockholders.

**Cashless Exercise.** If, at any time after the holder's purchase of common warrants, such holder exercises its common warrants and a registration statement registering the issuance of the shares of common stock underlying the common warrants under the Securities Act is not then effective or available (or a prospectus is not available for the resale of shares of common stock underlying the common warrants), then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder shall instead receive upon such exercise (either in whole or in part) only the net number of shares of common stock determined according to a formula set forth in the common warrants. Notwithstanding anything to the contrary, in the event we do not have or maintain an effective registration statement, there are no circumstances that would require us to make any cash payments or net cash settle the common warrants to the holders.

**Transferability.** Subject to applicable laws, the common warrants may be offered for sale, sold, transferred or assigned at the option of the holder upon surrender of the common warrant to us together with the appropriate instruments of transfer.

**Exchange Listing.** We do not plan on applying to list the common warrants on the Nasdaq Capital Market, any other national securities exchange or any other nationally recognized trading system.

**Fundamental Transactions.** In the event of a fundamental transaction, as described in the common warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, the holders of the common warrants will be entitled to receive upon exercise of the common warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the common warrants immediately prior to such fundamental transaction. In the case of certain fundamental transactions affecting us, a holder of common warrants, upon exercise of such warrants after such fundamental transaction, will have the right to receive, in lieu of shares of our common stock, the same amount and kind of securities, cash or property that such holder would have been entitled to receive upon the occurrence of the fundamental transaction, had the common warrants been exercised immediately prior to such fundamental transaction. In lieu of such consideration, a holder of common warrants may instead elect to receive a cash payment based upon the Black-Scholes value of their common warrants.

**Rights as a Stockholder.** Except by virtue of such holder's ownership of shares of our common stock, the holder of a common warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the common warrant.

## PLAN OF DISTRIBUTION

We engaged H.C. Wainwright & Co., LLC ("Wainwright") and Brookline Capital Markets, a division of Arcadia Securities, LLC ("Brookline") (the "placement agents") to act as our exclusive placement agents to solicit offers to purchase the securities offered by this prospectus on a reasonable best efforts basis. Wainwright is acting as exclusive lead placement agent and Brookline is acting as co-placement agent. The placement agents are not purchasing or selling any securities, nor are they required to arrange for the purchase and sale of any specific number or dollar amount of securities, other than to use their reasonable best efforts to arrange for the sale of the securities by us. Therefore, we may not sell the entire amount of securities being offered. There is no minimum amount of proceeds that is a condition to closing of this offering. The placement agents do not guarantee that they will be able to raise new capital in this offering. The terms of this offering were subject to market conditions and negotiations between us and prospective investors in consultation with the placement agents. The placement agents will have no authority to bind us. We will enter into a securities purchase agreement directly with the institutional investors, at the investor's option, who purchase our securities in this offering. Investors who do not enter into a securities purchase agreement shall rely solely on this prospectus in connection with the purchase of our securities in this offering. The placement agents may engage one or more sub-placement agents or selected dealers to assist with the offering. This offering will terminate on December 16, 2022, unless we decide to terminate the offering (which we may do at any time in our discretion) prior to that date. We will have one closing for all the securities purchased in this offering.

### Fees and Expenses

We have agreed to pay the placement agents a total cash fee equal to 7.0% of the aggregate gross proceeds of this offering. We will also pay Wainwright a non-accountable expense allowance of \$50,000 and will reimburse Wainwright's legal fees and expenses in an amount up to \$100,000 and for clearing expenses in an amount up to \$15,950. We estimate the total offering expenses of this offering that will be payable by us, excluding the placement agent fees, will be approximately \$250,000. After deducting the placement agent fees and our estimated offering expenses, we expect the net proceeds from this offering to be approximately \$5.4 million.

### Placement Agent Warrants

In addition, we have agreed to issue to Wainwright or its designees warrants to purchase up to 94,488 shares of common stock (which represents 5% of the aggregate number of shares of common stock issued in this offering and issuable upon the exercise of the pre-funded warrants issued in this offering) with an exercise price of \$3.969 per share (representing 125% of the public offering price per share) and exercisable for five years from the date of the commencement of sales in this offering (the "Placement Agent Warrants").

#### **Right of First Refusal**

In addition, with certain exceptions, for a period of seven months following the closing of this offering, we have granted Wainwright the right to act as sole book-runner, sole manager, sole placement agent or sole agent with respect to any financing or refinancing of indebtedness; and if we decide to raise funds by means of a public offering (including at-the-market facility) or a private placement or any other capital-raising financing of equity, equity-linked or debt securities, we have granted Wainwright the right to act as sole book-running manager, sole underwriter or sole placement agent for such financing.

#### **Tail**

We have also agreed to pay Wainwright a tail fee equal to the cash compensation in this offering, if any investor, who was contacted or introduced to us by Wainwright during the term of its engagement, provides us with capital in any public or private offering or other financing or capital raising transaction during the nine-month period following expiration or termination of our engagement of Wainwright.

#### **Determination of Offering Price**

The public offering price per share (or pre-funded warrant) and accompanying common warrant we are offering and the exercise prices and other terms of the warrants were negotiated between us and the investors, in consultation with the placement agents based on the trading of our common stock prior to this offering, among other things. Other factors considered in determining the public offering prices of the securities we are offering and the exercise prices and other terms of the warrants include the history and prospects of our company, the stage of development of our business, our business plans for the future and the extent to which they have been implemented, an assessment of our management, general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant. The combined public offering price per share (or pre-funded warrant) and common warrant will be fixed for the duration of this offering.

#### **Indemnification**

We have agreed to indemnify the placement agents against certain liabilities, including certain liabilities arising under the Securities Act, or to contribute to payments that the placement agents may be required to make for these liabilities.

#### **Regulation M**

The placement agents may be deemed to be underwriters within the meaning of Section 2(a)(11) of the Securities Act and any fees received by them and any profit realized on the sale of the securities by them while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. The placement agents will be required to comply with the requirements of the Securities Act and the Exchange Act of 1934, as amended (the "Exchange Act"), including, without limitation, Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of our securities by the placement agents. Under these rules and regulations, the placement agents may not (i) engage in any stabilization activity in connection with our securities; and (ii) bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until they have completed their participation in the distribution.

#### **Electronic Distribution**

A prospectus in electronic format may be made available on a website maintained by the placement agents and the placement agents may distribute prospectuses electronically. Other than the prospectus in electronic format, the information on these websites is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or the placement agents and should not be relied upon by investors.

#### **Lock-up Agreements**

Our officers and directors have agreed to be subject to a lock-up period of 90 days following the closing of this offering. This means that, during the applicable lock-up period, such persons may not offer for sale, contract to sell, sell, distribute, grant any option, right or warrant to purchase, pledge, hypothecate or otherwise dispose of, directly or indirectly, any shares of our common stock or any securities convertible into, or exercisable or exchangeable for, shares of our common stock. Certain limited transfers are permitted during the lock-up period if the transferee agrees to these lock-up restrictions. We have also agreed to similar lock-up restrictions on the issuance and sale of our securities for 90 days following the closing of this offering, although we will be permitted to issue stock under certain transactions and stock options or stock awards to directors, officers and employees under our existing plans. Wainwright may, in its sole discretion and without notice, waive the terms of any of these lock-up agreements. We have also agreed that until the one year anniversary from the closing of this offering we will not enter into a variable rate transaction, subject to certain exceptions.

#### **Other Relationships**

The placement agents and their affiliates have engaged, and may in the future engage, in investment banking transactions and other commercial dealings in the ordinary course of business with us or our affiliates. The placement agents have received, or may in the future receive, customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the placement agents and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The placement agents and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

#### **Transfer Agent and Registrar**

The transfer agent and registrar for our common stock is Continental Stock Transfer and Trust.

#### **The Nasdaq Capital Market Listing**

Our common stock is currently listed on The Nasdaq Capital Market under the symbol "CNSP."

### INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC:

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on March 3, 2022, as amended by Amendment No. 1 to the Annual Report on [Form 10-K/A](#), filed with the SEC on April 29, 2022;
- our Quarterly Reports on Form 10-Q for the fiscal quarters ended [March 31, 2022](#), filed with the SEC on May 16, 2022; [June 30, 2022](#), filed with the SEC on August 12, 2022; and [September 30, 2022](#), filed with the SEC on November 10, 2022;
- our Current Reports on Form 8-K filed with the SEC on [January 6, 2022](#), [February 18, 2022](#), [July 28, 2022](#), [August 4, 2022](#), [August 16, 2022](#), [August 19, 2022](#), and [August 26, 2022](#); in each case to the extent the information in such reports is filed and not furnished;
- our Definitive Proxy Statement on [Schedule 14A](#) filed on July 7, 2022; and
- the description of our common stock contained in our registration statement on [Form 8-A](#) filed with the SEC on November 5, 2019, including any amendments or reports filed for the purposes of updating this description.

Additionally, all documents filed by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after (i) the date of the initial registration statement and prior to effectiveness of the registration statement, and (ii) the date of this prospectus and before the termination or completion of any offering hereunder, shall be deemed to be incorporated by reference into this prospectus from the respective dates of filing of such documents, except that we do not incorporate any document or portion of a document that is “furnished” to the SEC, but not deemed “filed.”

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to CNS Pharmaceuticals, Inc., Attn: Corporate Secretary, 2100 West Loop South, Suite 900, Houston, TX 77027.

You also may access these filings on our website at [www.cnspharma.com](http://www.cnspharma.com). We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

### WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act for the securities being offered by this prospectus. This prospectus, which is part of the registration statement, does not contain all of the information included in the registration statement and the exhibits. For further information about us and the securities offered by this prospectus, you should refer to the registration statement and its exhibits. References in this prospectus to any of our contracts or other documents are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract or document. SEC filings are also available to the public at the SEC’s website at [www.sec.gov](http://www.sec.gov).

We are subject to the reporting and information requirements of the Exchange Act and, as a result, we file periodic and current reports, proxy statements and other information with the SEC. We make our periodic reports and other information filed with or furnished to the SEC, available, free of charge, through our website as soon as reasonably practicable after those reports and other information are filed with or furnished to the SEC. Additionally, these periodic reports, proxy statements and other information are available for inspection and copying at the public reference room and website of the SEC referred to above.

### LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by ArentFox Schiff LLP, Washington, DC. The placement agents are being represented by Lowenstein Sandler LLP in connection with this offering.

### EXPERTS

The financial statements as of December 31, 2020 and 2021 incorporated by reference in this prospectus have been audited by MaloneBailey, LLP, an independent registered public accounting firm, given on the authority of such firm as experts in auditing and accounting.

**Pre-Funded Warrants to Purchase Up to 1,742,764 Shares of Common Stock  
Shares of Common Stock underlying the Prefunded Warrants and Common Warrants**

**Placement Agent Warrants to Purchase Up to 94,488 Shares of Common Stock**

**CNS Pharmaceuticals, Inc.**

*Exclusive Lead Placement Agent*

**H.C. Wainwright & Co.**

*Co-Placement Agent*

**Brookline Capital Markets  
a division of Arcadia Securities, LLC**

**PROSPECTUS**

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**November 30, 2022**

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