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

PRE-EFFECTIVE AMENDMENT NO. 2
TO
FORM S-1
REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

NAVIDEA BIOPHARMACEUTICALS, INC.
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

2835
(Primary Standard Industrial
Classification Code Number)

31-1080091
(I.R.S. Employer
Identification Number)

4995 Bradenton Avenue, Suite 240
Dublin, Ohio 43017
(614) 793-7500
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Michael S. Rosol, Ph.D.
Chief Medical Officer
Navidea Biopharmaceuticals, Inc.
4995 Bradenton Avenue, Suite 240
Dublin, Ohio 43017
(614) 793-7500
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies to:

William M. Mower, Esq.
Andrew Tataryn, Esq.
Maslon LLP
90 South 7th Street, Suite 3300
Minneapolis, MN 55402

Barry I. Grossman, Esq.
Sarah E. Williams, Esq.
Matthew Bernstein, Esq.
Ellenoff Grossman & Shole LLP
1345 Avenue of the Americas
New York, NY 10105

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

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

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

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

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

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

Large accelerated filer ☐

Non-accelerated filer ☒

Emerging growth company ☐

Accelerated filer ☐

Smaller reporting company ☒

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

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

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

PRELIMINARY PROSPECTUS SUBJECT TO COMPLETION, DATED July 20, 2022



**Subscription Rights to Purchase Up to 35,000 Units
Consisting of up to 35,000 Shares of Series I Convertible Preferred Stock
and Warrants to Purchase up to 46,666,667 Shares of Common Stock
at a Subscription Price of \$1,000 per Unit**

(and up to 46,666,667 shares of Common Stock underlying such Series I Convertible Preferred Stock)

We are distributing to holders of our common stock, \$0.001 par value, and to holders of our Underwriter Warrants (as defined herein), Series D preferred stock and Series F preferred stock, at no charge, non-transferable subscription rights to purchase up to 35,000 units ("Units"). Each Unit consists of one (1) share of our Series I convertible preferred stock ("Series I preferred stock") and a warrant to purchase 1,333 shares of our common stock at an exercise price of \$0.80 per share from the date of issuance through its expiration five years from the date of issuance (the "warrants"). Each share of Series I preferred stock is convertible at the option of the holder at any time into a number of shares of our common stock equal to the quotient of stated value of the Series I preferred stock divided by the conversion price (initially, \$0.75 per share). We refer to the offering that is the subject of this prospectus as the rights offering. In the rights offering, you will receive one (1) subscription right for every share of common stock owned or deemed owned as of 4:00 p.m., Eastern Time, on August 3, 2022, the record date of the rights offering (the "Record Date"). Shares that are "deemed owned" refer to the shares issuable upon exercise of the outstanding warrants issued to the underwriter in our public offering in 2019 (the "Underwriter Warrants") and the shares issuable upon conversion of the outstanding Series D preferred stock and Series F preferred stock. The Series I preferred stock and warrants comprising the Units will separate upon the closing of this rights offering and will be issued separately; however, they may only be purchased as a Unit and the Unit will not trade as a separate security. The subscription rights will not be tradeable. There is no minimum number of Units that we must sell in order to complete the rights offering.

Each subscription right consists of a basic subscription right and an over-subscription privilege.

Each subscription right will entitle you to purchase one Unit, which we refer to as the basic subscription right, at a subscription price equal to \$1,000 per Unit, subject to proration among participants exercising their basic subscription right. If you exercise your basic subscription right in full, and any portion of the Units remain available under the rights offering which are unsubscribed, you will be entitled to an over-subscription privilege to purchase a portion of the unsubscribed Units at the subscription price, subject to proration among participants exercising their over-subscription privilege, which we refer to as the over-subscription privilege.

The subscription rights will expire if they are not exercised by 5:00 p.m., Eastern Time, on August 17, 2022, unless the rights offering is extended or earlier terminated by us. If we elect to extend the rights offering, we will issue a press release announcing the extension no later than 9:00 a.m., Eastern time, on the next business day after the most recently announced expiration date of the rights offering. We may extend the rights offering for a period not to exceed 45 days in our sole discretion. Once made, all exercises of subscription rights are irrevocable. All subscription payments will be deposited into an escrow account maintained by the subscription agent for the benefit of the holders exercising their subscriptions under the rights offering, and if the rights offering is not completed for any reason all funds will be promptly returned to such subscribers in the amounts advanced in connection with their respective exercises.

John K. Scott, Jr., vice chairman of our board of directors and the beneficial owner of approximately 31.5% of our outstanding common stock as of the Record Date, may exercise some or all of his subscription rights, but he has not made a decision with respect to exercising his basic subscription right or over-subscription privilege at this time. Certain holders of our outstanding common stock, Series D preferred stock, and Series F preferred stock, including Mr. Scott, will have the option to pay the subscription price in this rights offering by cancelling or exchanging their shares of Series D preferred stock, Series F preferred stock and Series G preferred stock and our indebtedness evidenced by a secured term note in the aggregate principal amount of \$2.5 million plus accrued but unpaid interest payable to Mr. Scott ("Term Note"), instead of paying cash. The fair market value of the shares of each series of preferred stock and the Term Note to be cancelled or exchanged in the rights offering will be determined by an independent appraisal.

We have engaged Maxim Group LLC to act as the dealer-manager for this rights offering. We have not entered into any standby purchase agreement or other similar arrangement in connection with this rights offering. The rights offering is being conducted on a best-efforts basis. We have also engaged Broadridge Corporate Issuer Solutions, Inc. ("Broadridge") to serve as our subscription and information agent for the rights offering. The subscription agent will hold in escrow the funds we receive from subscribers until we complete or cancel this rights offering.

We are conducting the rights offering to raise capital that we intend to use for funding the Company's pivotal Phase 3 trial for Rheumatoid Arthritis (NAV3-33) (as described below), obtaining regulatory approvals, working capital, and for general corporate purposes.

You should carefully consider whether to exercise your subscription rights prior to the expiration of the rights offering. All exercises of subscription rights are irrevocable, even if the rights offering is extended by our board of directors for a period of up to 45 days.

If we amend the rights offering to allow for an extension of the rights offering for a period of more than 45 days or make a fundamental change to the terms of the rights offering set forth in this prospectus, you may cancel your subscription and receive a prompt refund of any money you have advanced. Our board of directors may cancel the rights offering at any time prior to the expiration of the rights offering for any reason. In the event the rights offering is canceled, all subscription payments received by the subscription agent will be promptly returned, without interest.

Our board of directors is making no recommendation regarding your exercise of the subscription rights. The subscription rights may not be sold, transferred or assigned and will not be listed for trading on any stock exchange or market. Our common stock is listed on the NYSE American under the symbol "NAVB." On July 19, 2022, the last reported sale price of our common stock on the NYSE American was \$0.69 per share. You are urged to obtain current market quotations for our common stock.

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

Investing in our securities involves a high degree of risk. See "Risk Factors" on page 17 of this prospectus.

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

	Per Unit	Total(2)
Subscription price	\$	\$
Dealer-manager fees and expenses (1)	\$	\$
Proceeds to us, before expenses	\$	\$

- (1) We have agreed to pay to Maxim Group LLC as the dealer-manager a cash fee equal to 7.0% of the gross proceeds received by us directly from exercises of the subscription rights; provided that the cash fee will be 3.5% with respect to the exercise of any subscription rights by our current directors. We agreed to reimburse expenses of the dealer-manager, up to \$90,000. In addition, we have agreed to issue to the dealer-manager warrants to purchase a number of shares of our common stock equal to 5.0% of the aggregate number of shares of common stock sold in the rights offering, assuming conversion of all of the shares of Series I convertible preferred stock sold in the rights offering; provided that the warrants coverage will be reduced to 2.5% for Units sold to our current directors in the rights offering. See "Plan of Distribution."
- (2) Assumes the subscription rights are fully subscribed for cash, but excludes cash proceeds, if any, from the exercise of the warrants included in the Units.

Dealer Manager

Maxim Group LLC

The date of this prospectus is , 2022

TABLE OF CONTENTS

ABOUT THIS PROSPECTUS	1
SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS	2
PROSPECTUS SUMMARY	3
SUMMARY OF THE OFFERING	8
QUESTIONS AND ANSWERS ABOUT THE RIGHTS OFFERING	11
RISK FACTORS	17
USE OF PROCEEDS	21
DILUTION	22
RIGHTS OFFERING	23
MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES	31
DESCRIPTION OF CAPITAL STOCK	37
PLAN OF DISTRIBUTION	44
MANAGEMENT	45
EXECUTIVE COMPENSATION	48
CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS	54
PRINCIPAL STOCKHOLDERS	57
LEGAL MATTERS	58
EXPERTS	58
WHERE YOU CAN FIND ADDITIONAL INFORMATION	58
INCORPORATION OF CERTAIN INFORMATION BY REFERENCE	58

You should read this prospectus, including all documents incorporated herein by reference, together with additional information described under “Where You Can Find More Information.”

You may obtain the information incorporated by reference without charge by following the instructions under “Where You Can Find More Information.”

ABOUT THIS PROSPECTUS

You should rely only on the information we have provided or incorporated by reference into this prospectus. We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus in connection with the rights offering described herein. You must not rely on any unauthorized information or representation. 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. You should assume that the information in this prospectus, or any document incorporated by reference is accurate only as of the date of the applicable documents, regardless of the time of delivery of this prospectus or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since that date.

The distribution of this prospectus and the issuance of the securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the sale of the securities and the distribution of this prospectus outside the United States. This prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, the securities offered by this prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the section entitled “Where You Can Find More Information.”

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

The Private Securities Litigation Reform Act of 1995 (the “PSLRA”) provides a safe harbor for forward-looking statements made by or on behalf of the Company. Statements in this document which relate to other than strictly historical facts, such as statements about the Company’s plans and strategies, expectations for future financial performance, new and existing products and technologies, anticipated clinical and regulatory pathways, the ability to obtain, and timing of, regulatory approvals of the Company’s products, the timing and anticipated results of commercialization efforts, and anticipated markets for the Company’s products, are forward-looking statements within the meaning of the PSLRA. The words “anticipate,” “believe,” “estimate,” “expect,” “future,” “intend,” “plan,” “project,” and similar expressions identify forward-looking statements that speak only as of the date hereof. Investors are cautioned that such statements involve risks and uncertainties that could cause actual results to differ materially from historical or anticipated results due to many factors including, but not limited to, our history of operating losses and uncertainty of future profitability, accumulated deficit, future capital needs, the outcome of any pending litigation, uncertainty of capital funding, dependence on royalties and grant revenue, limited product line and distribution channels, competition, risks of development of new products, our ability to maintain effective control over financial reporting, our ability to comply with NYSE American continued listing standards, and other risks set forth in our Form 10-K under Item 1A, “Risk Factors” and beginning on page 17 of this prospectus. Navidea undertakes no obligation to publicly update or revise any forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- the impact of the global COVID-19 pandemic on our business, financial condition or prospects, including a decline in the volume of procedures using our products, potential delays and disruptions to global supply chains, manufacturing activities, logistics, operations, employees and contractors, the business activities of our suppliers, distributors, customers and other business partners, as well as the effects on worldwide economies, financial markets, social institutions, labor markets and healthcare systems;
- the impact of the current conflict between Ukraine and Russia on our business, financial condition or prospects, including extreme volatility in the global capital markets making debt or equity financing more difficult to obtain, more costly or more dilutive, delays and disruptions of the global supply chains and the business activities of our suppliers, distributors, customers and other business partners;
- our history of operating losses and uncertainty of future profitability;
- our ability to successfully complete research and further development of our drug candidates;
- the timing, cost and uncertainty of obtaining regulatory approvals of our drug candidates, including delays and additional costs related to the ongoing COVID-19 pandemic and/or the current Russia-Ukraine conflict;
- our ability to successfully commercialize our drug candidates, including delays or disruptions related to the ongoing COVID-19 pandemic and/or the current Russia-Ukraine conflict;
- our ability to raise capital sufficient to fund our development programs, including unavailability of funds or delays in receiving funds as a result of the ongoing COVID-19 pandemic and/or the current Russia-Ukraine conflict;
- delays in receipt of anticipated proceeds from our capital funding transactions and other receivables;
- our dependence on royalties and grant revenue;
- our limited product line and distribution channels;
- advances in technologies and development of new competitive products;
- our ability to maintain effective control over financial reporting;
- the outcome of any pending litigation;
- our ability to comply or regain compliance with NYSE American continued listing standards; and
- other risk factors set forth in this report and detailed in our most recent Annual Report on Form 10-K and other Securities and Exchange Commission (“SEC”) filings.

You should carefully read this prospectus, the documents that we incorporate by reference into this prospectus and the documents we reference in this prospectus and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in this prospectus by these cautionary statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, whether as a result of new information, future events or otherwise.

PROSPECTUS SUMMARY

This summary highlights information contained in other parts of this prospectus or incorporated by reference into this prospectus from our filings with the SEC listed in the section of the prospectus entitled “Incorporation of Certain Information by Reference.” Because it is only a summary, it does not contain all of the information that should be considered before purchasing our securities in this offering and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere or incorporated by reference into this prospectus. You should read the entire prospectus, the registration statement of which this prospectus is a part, and the information incorporated by reference herein in their entirety, including the “Risk Factors” and our financial statements and the related notes incorporated by reference into this prospectus, before purchasing our securities in this offering. Unless the context requires otherwise, references in this prospectus to “the Company,” “Navidea,” “we,” “us” and “our” refer to Navidea Biopharmaceuticals, Inc. together with its wholly-owned subsidiaries, Navidea Biopharmaceuticals Europe Limited and Navidea Biopharmaceuticals Limited, and its majority-owned subsidiary, Macrophage Therapeutics, Inc.

The Company

Navidea Biopharmaceuticals, Inc. (“Navidea,” the “Company,” “we,” “us” or “our”), a Delaware corporation (NYSE American: NAVB), is a biopharmaceutical company focused on the development and commercialization of precision immunodiagnostic agents and immunotherapeutics. Navidea is developing multiple precision-targeted products based on our Manocept platform to enhance patient care by identifying the sites and pathways of undetected disease and enable better diagnostic accuracy, clinical decision-making and targeted treatment.

Navidea’s Manocept platform is predicated on the ability to specifically target the CD206 mannose receptor expressed on activated macrophages. The Manocept platform serves as the molecular backbone of Tc99m tilmanocept, the first product developed and commercialized by Navidea based on the platform. Other than Tc99m tilmanocept, which the Company has a license to distribute outside of Canada, Mexico and the United States, none of the Company’s drug product candidates have been approved for sale in any market.

Our business is focused on two primary types of drug products: (i) diagnostic substances, including Tc99m tilmanocept and other diagnostic applications of our Manocept platform, and (ii) therapeutic development programs, including therapeutic applications of our Manocept platform.

Technology and Product Candidates

Our primary development efforts over the last several years were focused on diagnostic products, including Tc99m tilmanocept, which the Company has a license to distribute outside of Canada, Mexico and the United States. Our more recent initiatives have been focused on diagnostic and therapeutic line extensions based on our Manocept platform.

During the ongoing COVID-19 global pandemic, the Company’s primary concern is the safety of its employees, the employees of its clinical trial sites, and the patients enrolled in its clinical trials. The Company is working hard to mitigate any safety risk along with any long-term impact on its clinical development programs. We do not believe there has been a significant impact to the Company’s clinical development and regulatory timelines resulting from the ongoing COVID-19 global pandemic. However, the COVID-19 outbreak delayed enrollment in our NAV3-32 clinical study in the United Kingdom due to national COVID-19-related shutdowns. In addition, the regulatory approval process in India was delayed by the impact of COVID-19 in that country.

As brief overview of recent developments in the Company’s diagnostics area (additional details in following sections), Navidea has completed the Phase 2b clinical trial (NAV3-31) evaluating imaging repeatability, reproducibility, and stability, as well as the capacity of Tc99m tilmanocept imaging to serve as an early predictor of treatment efficacy of anti-tumor necrosis factor alpha (“TNF α ”) therapy in patients with moderate to severe Rheumatoid Arthritis (“RA”). In addition, the Company has completed enrollment into a Phase 2b clinical trial (NAV3-35) designed to accrue hand and wrist planar and single photon emission computed tomography/computed tomography (“SPECT/CT”) images from healthy subjects (with SPECT/CT imaging also done on a small group of RA patients) so that Navidea can complete a normative database in support of its RA imaging commercial product development. The Company’s recently launched pivotal Phase 3 trial for RA (NAV3-33) is the next step in the development plan for indications in RA. The additional Phase 2b trial (NAV3-32) correlating Tc99m tilmanocept uptake in RA-involved joints with CD206 immunohistochemistry findings from synovial biopsies is actively recruiting. In addition, the investigator-initiated Phase 2 cardiovascular (“CV”) study was completed at Massachusetts General Hospital and a manuscript has been submitted by the investigators. Results of this study provided to date have paralleled data in our earlier published article, and these data are supportive of Navidea’s hypothesis that tilmanocept can provide marked signal to background in a host of CV disease applications.

Manocept Platform - Diagnostics and Therapeutics Background

Navidea’s Manocept platform is predicated on the ability to specifically target the mannose receptor (CD206) expressed primarily on activated macrophages. This flexible and versatile platform serves as a molecular backbone for purpose-built targeted imaging molecules that may significantly impact patient care by providing enhanced diagnostic accuracy, clinical decision-making, and target-specific treatment. This CD206-targeted drug platform is applicable to a range of diagnostic modalities, including SPECT, positron emission tomography (“PET”), gamma-scanning and intra-operative and/or optical-fluorescence detection, as well as delivery of therapeutic compounds that target macrophages and their role in a variety of immune- and inflammation-involved diseases. The United States Food and Drug Administration (“FDA”)-approved sentinel node/lymphatic mapping agent, Tc99m tilmanocept, is representative of the ability to successfully exploit this mechanism to develop powerful new products and to expand this technology into additional diagnostic and therapeutic applications.

Activated macrophages play important roles in many disease states and are an emerging target in many diseases where diagnostic uncertainty exists. Impairment of the macrophage-driven disease mechanisms is an area of increasing and proven focus in medicine. The number of people affected by all the inflammatory diseases combined is estimated at more than 40 million in the United States and up to 700 million worldwide, making macrophage-mediated diseases an area of remarkable clinical importance. There are many recognized disorders having macrophage involvement, including RA, atherosclerosis/vulnerable plaque, nonalcoholic steatohepatitis, inflammatory bowel disease, systemic lupus erythematosus, cancer generally including Kaposi's sarcoma ("KS"), leishmaniasis, and others that span general clinical areas in cancer immunology, autoimmunity, infectious diseases, cardiology, central nervous system diseases, and inflammation. For the near term, we have selected target diseases that may, if successfully developed, benefit from this technology.

The Company has developed processes for producing the first two therapeutic Manocept immuno-construct series, the Manocept doxorubicin ("MAN-DOX") series, which is designed to specifically target and kill or modify activated CD206+ macrophages by delivering doxorubicin, and the Manocept dexamethasone ("MAN-DEX") series, which is designed to inhibit the inflammatory activity of activated CD206+ macrophages by delivering a potent anti-inflammatory agent, dexamethasone. We have expended significant efforts in recent years to improve chemical syntheses and to produce sufficient quantities of the MAN-DOX series and MAN-DEX series agents, along with the concomitant analytical standards, to provide material for current and planned preclinical animal studies and future clinical trials. Evaluation of advanced MAN-DOX and MAN-DEX constructs have been successfully performed in human macrophage cell culture assays with MAN-DOX advancing to evaluations in various syngeneic mouse models of cancer.

Manocept Platform – Immuno-Diagnostics Clinical Data

Rheumatoid Arthritis

Two Tc99m tilmanocept dose escalation studies in RA have been completed. The first study was completed and included 18 subjects (nine with active disease and nine healthy subjects) dosed subcutaneously ("SC") with 50 and 200 µg/2mCi Tc99m tilmanocept (ClinicalTrials.gov NCT02683421). The results of this study were presented at five international meetings, including Biotechnology Innovation Organization, Society of Nuclear Medicine and Molecular Imaging ("SNMMI"), and The American College of Rheumatology ("ACR"). In addition, based on completion of extensive preclinical dosing studies pursuant to our dialog with the FDA, we have completed a Phase 1/2 study involving intravenous ("IV") dosing of 39 subjects with IV-administered Tc99m tilmanocept (ClinicalTrials.gov NCT02865434). In conjunction with this study, we completed pharmacokinetic, pharmacodynamics and radiation dosimetry phases in human subjects as well. The majority of the costs of these studies were supported through a Small Business Innovation Research ("SBIR") grant (NIH/NIAMSD Grant 1 R44 AR067583-01A1). Results of the Phase 1/2 study were presented at the June 2018 and June 2019 SNMMI meetings, the 2018 European League Against Rheumatism ("EULAR") meeting and the 2018 ACR meeting. A manuscript intended for peer reviewed publication is in preparation.

The Phase 1/2 study enrolled subjects with active, moderate-to-severe RA, and healthy controls. Results from the completed trial demonstrated that Tc99m tilmanocept is well-tolerated with no serious adverse events, adverse drug reactions, or drug-related adverse events observed. Additionally, static planar images revealed joint-specific Tc99m tilmanocept localization in RA subjects to disease-involved joints of the shoulders, knees, hands, and feet, but no joint-specific localization in healthy control subjects, revealing potentially significant immunodiagnostic information about CD206-expressing synovial macrophage involvement in RA. An optimal imaging time window post-Tc99m tilmanocept IV administration, as well as optimal dosing, were also determined.

In April 2019, the Company received feedback from the FDA regarding the Company's planned clinical studies to evaluate joint disease in patients with RA and monitor patient response to therapy. The Company's proposed RA studies were discussed with the FDA during an in-person meeting and through follow-up collaborative efforts. The FDA communicated that the first study, a Phase 2b trial, was aligned with expectations for the studies and that they would continue to work with Navidea as the Company progressed into the second Phase 2b trial correlating Tc99m tilmanocept uptake in RA-involved joints with CD206 immunohistochemistry findings from synovial biopsies and into the planned Phase 3 clinical trial.

In May 2019, we began enrolling patients into the first Phase 2b study, (NAV3-31), entitled "Evaluation of the Precision and Sensitivity of Tilmanocept Uptake Value ("TUV") on Tc99m Tilmanocept Planar Imaging" (ClinicalTrials.gov MCT03938636). This study, since completed, provided confirmatory support necessary to initiate Navidea's Phase 3 study program. In October 2019, the Company performed its first interim analysis of this trial, covering subjects enrolling into Arms 1 and 2. The results of this interim analysis were in line with the Company's hypotheses that Tc99m tilmanocept can provide robust, stable imaging in healthy subjects as well as in patients with active RA, and provide the fundamental information needed to keep moving forward into the Phase 3. A summary of these results was presented at the 2020 EULAR meeting. In May 2020, the Company announced the results of its second interim analysis, covering Arm 3 of the trial. This Arm mirrored the upcoming Phase 3 in design and provided information relevant for sample size calculation for the Phase 3 as well as support for the hypothesis that Tc99m tilmanocept imaging can provide an early indicator of treatment efficacy of anti-TNFα therapeutics. These interim results were presented at the 2020 ACR meeting. In June 2020, the Company announced full enrollment into this trial, with imaging events completed in each patient enrolled in Arm 3.

In February 2021, the Company submitted its formal briefing book to the FDA, containing detailed analysis and discussion of the Company's then-ongoing Phase 2b study (NAV3-31) and prior studies in RA as well as the design and statistical analysis plan for the proposed Phase 3 for FDA comment. Following the feedback received from the FDA at the end of March 2021, the Company continued to work toward completing the analysis of the full NAV3-31 trial dataset and submitted the resultant briefing book containing the results of this analysis in preparation for the standard End-of-Phase 2 Type B meeting, which took place on September 1, 2021. The Company had a constructive meeting with the FDA and, based on the discussion in this meeting and follow-up communication, made agreed-upon modifications to the trial design for the Phase 3 study (NAV3-33). The Company submitted the modified protocol back to the FDA and initiated the study in December 2021. Following additional feedback from the FDA, the Company made modifications to several of the objectives. Enrollment into the Phase 3 study is ongoing. The pivotal Phase 3 study program will determine Tc99m tilmanocept's capability to serve as an early predictor of treatment response to anti-TNF α therapy in patients with RA. The current aim is for completion of the Phase 3 by end of 2023 with NDA submission targeted for 2024.

Cardiovascular Disease

In collaboration with researchers at Massachusetts General Hospital, Navidea has completed two investigator-initiated clinical studies evaluating Tc99m tilmanocept's ability to enable imaging of atherosclerotic plaques. Results of these studies provide strong preliminary evidence of the potential of Tc99m tilmanocept to accumulate specifically in and enable imaging of non-calcified atherosclerotic plaques. Non-calcified atherosclerotic plaques include plaques with morphologies indicating a high risk of rupture. Rupture of such plaques causes myocardial infarctions (heart attacks) and a significant portion of ischemic strokes. The studies compared aortic Tc99m tilmanocept uptake imaged by SPECT/CT in clinically asymptomatic subjects with intermediate Framingham Risk Scores ("FRS") who were infected with Human Immunodeficiency Virus ("HIV") as compared to healthy, uninfected, FRS and age-matched subjects. Tc99m tilmanocept SPECT/CT images were compared to aortic images of the same subjects obtained by contrast enhanced coronary computed tomography angiography and/or [18F]NaF PET/CT.

A nine-subject study to evaluate diagnostic imaging of emerging atherosclerosis plaque with the Tc99m tilmanocept product dosed SC was performed (ClinicalTrials.gov NCT02542371). The results of this study were presented at two major international meetings (Conference on Retroviruses and Opportunistic Infections and SNMMI, 2017) and published in early release in the *Journal of Infectious Diseases* in January 2017 (published in the circulated version, *Journal of Infectious Diseases* (2017) 215 (8): 1264-1269), confirming that the Tc99m tilmanocept product can both quantitatively and qualitatively target non-calcified plaque in the aortic arch of Acquired Immunodeficiency Syndrome ("AIDS") patients (supported by NIH/NHLBI Grant 1 R43 HL127846-01). This study was later expanded to include up to 31 participants, and has achieved full enrollment, with a manuscript submitted.

A second Phase 1/2 investigator-initiated study in cooperation with Massachusetts General Hospital in subjects with HIV was initiated that expanded the original study in both the scope of the drug administration as well as the diagnostic assessment of the subjects. This study enrolled both AIDS subjects and healthy controls in imaging non-calcified plaque using IV and SC-administered Tc99m tilmanocept and will expand the initial investigation to the assessment of aortic plaque as well as carotid and coronary arteries. Initial analysis suggested that the SC route of administration led to superior signal-to-background in areas of non-calcified plaque. These results are being further assessed.

Navidea has also been awarded a \$225,000 phase 1 Small Business Technology Transfer grant (1R41HL147640-01A1) entitled *Gallium 68 Tilmanocept for PET Imaging of Atherosclerosis Plaques*. This grant supported a research collaboration between Navidea and Dr. Suzanne Lapi of the University of Alabama Birmingham evaluating a mouse model of atherosclerosis. This work has as its aim the evaluation of [68]gallium tilmanocept and various next generation imaging agents for visualizing plaques. Activities began in the fourth quarter of 2019. All images have been acquired with efforts now focused on final data analysis.

Kaposi's Sarcoma

We initiated and completed a study of KS in 2015 (ClinicalTrials.gov NCT022201420) and received additional funding from the National Institutes of Health ("NIH") in 2016 to continue diagnostic studies in this disease. The new support not only continues the imaging of the cutaneous form of this disease but expands this to imaging of visceral disease via IV administration of Tc99m tilmanocept (NIH/NCI 1 R44 CA192859-01A1; ClinicalTrials.gov NCT03157167). This now-escalated study includes a pathology/biopsy component as well as an imaging component to determine pathology concordance with image assessment. We received Institutional Review Board approval of the clinical protocol and initiated a Phase 1/2 clinical study in KS in 2017. This trial has completed enrollment and imaging, with final data analysis and clinical study report preparation well underway.

Tuberculosis (“TB”)

In April 2019, the Company announced that Professor Mike Sathekge, MBChB, M. Med (Nuclear Medicine), PhD, Professor and Head of the Department of Nuclear Medicine in the Faculty of Health Sciences at the University of Pretoria/Steve Biko Academic Hospital, planned to initiate a comparative study evaluating the use of tilmanocept in patients with TB. The purpose of this ongoing study is to explore using 68Ga tilmanocept as an aid in TB patient management while contributing to the better understanding of the biology of TB granulomas. CD206+ macrophages constitute one of the most abundant cell types in TB granulomas. Therefore, a molecular probe such as 68Ga-labeled tilmanocept targeting mannose receptor CD206 expressed on macrophages holds great promise not only in understanding the biology of TB granulomas, but may also support future development of a tilmanocept-like drug delivery vehicle for delivering therapeutic interventions to TB granulomas. Navidea has provided tilmanocept for use in this study, and several subjects have been injected and imaged to date. Successful completion of this study could support an extended claim of 68Ga-tilmanocept.

Biomarker Application and Qualification

In November 2017, the Company commenced the qualification of the biomarker CD206 with the FDA Biomarker Section of The Center for Drug Evaluation and Research (“CDER”). As per FDA protocol, Navidea submitted a draft letter of intent (“LOI”) to CDER prior to the November 2017 meeting. According to the CDER directive, “the Biomarker Qualification Program was established to support the CDER’s work with external stakeholders to develop biomarkers that aid in the drug development process. Through the FDA’s Biomarker Qualification Program, an entity may request regulatory qualification of a biomarker for a particular context of use (“COU”) in drug development.” Following the meeting with the FDA, and because of Navidea’s data sets and the general external publication database, Navidea, in conjunction with FDA, is now reviewing the LOI with the FDA’s recommended consultants. Navidea has revised the LOI draft strategy in order to expedite the application process. In March 2018, Navidea had a follow-up meeting with the FDA’s assigned strategist, during which the potential to further narrow the LOI elements was reviewed. Navidea is continuing the process of finalizing the COU LOI and providing the background data sets for qualification review with the FDA/CDER. Additional meetings have taken place and the pursuit of this qualification is ongoing.

Manocept Platform – In-Vitro and Pre-Clinical Immunotherapeutics Data

The Company has been developing Manocept platform drug delivery constructs that carry various payloads including doxorubicin and dexamethasone. Chemical synthesis techniques have advanced considerably, resulting in more robust and reproducible synthesis protocols that provide products with chemical attributes indicative of enhanced *in vivo* activity. The most advanced drug delivery construct carries a doxorubicin payload and is now in its third generation of chemical synthesis protocol design. This third-generation doxorubicin carrying construct has been extensively evaluated in human macrophage cell culture assays and in three experiments using syngeneic mouse cancer models. These experiments show that at treatment doses below what is required to kill macrophages, the doxorubicin-carrying constructs dramatically alters the immunological behavior of macrophages, making them more proinflammatory. In one of the syngeneic mouse tumor experiments, the MAN-DOX construct significantly synergized the activity of another anticancer therapy producing anti-tumor activity that was greater than either treatment alone. Results from this study were presented at the New York Academy of Sciences Frontiers in Cancer Immunotherapy 2021 conference on May 14, 2021. Near-term experiments with the Manocept doxorubicin construct include further studies in macrophage cell culture, additional syngeneic mouse tumor models, and a toxicity study in rats. Work involving a second generation Manocept dexamethasone-carrying construct has progressed to evaluations in human macrophage culture assays. Efforts developing Manocept constructs with different payloads are ongoing. Three new Manocept constructs carrying payloads other than doxorubicin or dexamethasone have progressed to evaluations in macrophage cell culture assays. These new constructs include two carrying novel bisphosphonate drugs, and the results of studies of these two constructs in macrophage cell culture assays were presented at the Tumor Myeloid-Directed Therapies Summit in June 2022.

Kaposi’s Sarcoma

The novel MAN-DOX class constructs are designed to specifically deliver doxorubicin, a chemotoxin, which can kill KS tumor cells and their tumor-associated macrophages, potentially altering the course of cancer. We received additional funding to continue therapeutic studies in this disease with the goal of completing an investigational new drug (“IND”) submission for a Manocept construct (MAN-DOX class of compounds) consisting of tilmanocept linked to doxorubicin for the treatment of KS. Efforts supported by this grant (NIH/NCI 1 R44 CA206788-01) are now complete. The results greatly advanced our knowhow for robustly and reproducibly synthesizing MAN-DOX and related constructs carrying other payloads. The grant-supported efforts were presented at the New York Academy of Sciences Frontiers in Cancer Immunotherapy 2021.

Other Immunotherapeutic Applications

The Company continues to evaluate emerging data in other disease states to define areas of focus, development pathways and partnering options to capitalize on the Manocept platform, including ongoing studies in KS, RA and infectious diseases. The immuno-inflammatory process is remarkably complex and tightly regulated with indicators that initiate, maintain and shut down the process. Macrophages are immune cells that play a critical role in the initiation, maintenance, and resolution of inflammation. They are activated and deactivated in the inflammatory process. Because macrophages may promote dysregulation that accelerates or enhances disease progression, diagnostic and therapeutic interventions that target macrophages may open new avenues for controlling inflammatory diseases. There can be no assurance that further evaluation or development will be successful, that any Manocept platform product candidate will ultimately achieve regulatory approval, or if approved, the extent to which it will achieve market acceptance.

Risks Associated with Our Business and this Offering

Our business and our ability to implement our business strategy are subject to numerous risks, as more fully described in the section of this prospectus entitled “Risk Factors” and under similarly titled headings of the documents incorporated herein by reference. You should read these risks before you invest in our securities. We may be unable, for many reasons, including those that are beyond our control, to implement our business strategy. In particular, risks associated with our business include:

- The global COVID-19 pandemic may continue to impact our business, financial condition or prospects, including a decline in the volume of procedures using our products, potential delays and disruptions to clinical trials, global supply chains, manufacturing activities, logistics, operations, employees and contractors, the business activities of our suppliers, distributors, customers and other business partners, as well as the effects on worldwide economies, financial markets, social institutions, labor markets and healthcare systems.
- The current conflict between Ukraine and Russia may impact our business, financial condition or prospects, including extreme volatility in the global capital markets making debt or equity financing more difficult to obtain, more costly or more dilutive, delays and disruptions of the global supply chains and the business activities of our suppliers, distributors, customers and other business partners.
- There is substantial doubt about our ability to continue as a going concern, which may affect our ability to obtain future financing and may require us to curtail our operations. We will need to raise additional capital to support our operations.
- We have incurred losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future, and our future profitability is uncertain.
- Our product candidates must undergo rigorous clinical testing, such clinical testing may fail to demonstrate safety and efficacy and any of our product candidates could cause undesirable side effects, which would substantially delay or prevent regulatory approval or commercialization.
- We are dependent on patents and proprietary technology. If we fail to adequately protect this intellectual property or if we otherwise do not have exclusivity for the marketing of our products, our ability to commercialize products could suffer.
- If our competitors are able to develop and market products that are more effective, safer or more affordable than ours, or obtain marketing approval before we do, our commercial opportunities may be limited.

In addition to the foregoing risks, you should carefully consider the risks and uncertainties related to the rights offering described under “Risk Factors beginning on page 17 of this prospectus.

Recent Developments

As disclosed in the notes to the financial statements included in the Company’s Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, the Company has been engaged in ongoing litigation with Capital Royalty Partners II L.P. (“CRG”), in its capacity as a lender and as control agent for other affiliated lenders party to the CRG Loan Agreement (collectively, the “Plaintiffs”), in the District Court of Harris County, Texas (the “Texas Court”). In April 2018, the Plaintiffs asserted claims against Navidea and Macrophage Therapeutics, Inc. for alleged breaches of a Global Settlement Agreement (“GSA”) and Loan Agreement entered into by Navidea arising from the Navidea’s challenge to the Plaintiffs’ drawing down on letters of credit in the full amount of \$7,153,000 which Navidea claims resulted in an overpayment of approximately \$4.2 million under the Loan Agreement. The Plaintiffs also seek declaratory judgment relief that essentially mirrors their claims for affirmative relief, i.e., that the Company breached the GSA and indemnification provision of the Loan Agreement, and that the Plaintiffs did not breach the GSA.

On November 21, 2021, the Texas Court entered an interlocutory judgment declaring that CRG did not breach the GSA, but that Navidea did breach the GSA and the indemnification provision of the CRG Loan Agreement. In the interlocutory order, the Texas Court sua sponte awarded as damages reasonable attorneys’ fees in an amount, if any, to be determined at trial. The case is set for a bench trial on August 26, 2022. CRG has made a claim of approximately \$2.8 million in attorneys’ fees they contend they are entitled to in connection with the alleged breaches of the agreements. Navidea contends CRG have received payments in excess of the amounts owed under the CRG Loan Agreement and are not entitled to an award of attorney’s fees under the GSA or Loan Agreement. Discovery has been completed and a motion to amend the interlocutory partial summary judgment is pending. The amount of ultimate liability, if any, with respect to this action is unknown.

On January 28, 2022, the Company received a notification from the NYSE American LLC (the “NYSE American”) stating that the Company was not in compliance the \$6.0 million stockholders’ equity requirement of Section 1003(a)(iii) of the NYSE American Company Guide. As required by the NYSE American, the Company submitted a plan to the NYSE American by February 28, 2022 advising of actions it has taken or will take to regain compliance with the continued listing standards by July 28, 2023.

On April 8, 2022, the Company received a notification (the “Acceptance Letter”) from the NYSE American that the Company’s plan to regain compliance was accepted. The Acceptance Letter also stated that the Company is also not in compliance with Sections 1003(a)(i) and 1003(a)(ii) of the NYSE American Company Guide, which require an issuer to have stockholders’ equity of (i) \$2.0 million or more if it has reported losses from continuing operations and/or net losses in two out of its three most recent fiscal years, and (ii) \$4.0 million or more if it has reported losses from continuing operations in three out of its four most recent fiscal years. The Acceptance Letter noted that the Company had stockholders’ equity of \$624,743 as of December 31, 2021 and has reported net losses from continuing operations in its five most recent fiscal years ended December 31, 2021.

The NYSE American has granted the Company a plan period through July 28, 2023 to regain compliance with Sections 1003(a)(i), (ii) and (iii). If the Company is not in compliance with all continued listing standards by that date or if the Company does not make progress consistent with the plan during the plan period, the NYSE American may commence delisting procedures.

Corporate Information

Our corporate headquarters are located at 4995 Bradenton Avenue, Suite 240, Dublin, Ohio 43017-3552, and our telephone number is (614) 793-7500. We maintain a website at www.navidea.com, to which we regularly post copies of our press releases as well as additional information about us. The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are available free of charge through the investor relations page of our internet website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC.

SUMMARY OF THE OFFERING

The following summary describes the principal terms of the rights offering, but is not intended to be complete. See the information under the heading "The Rights Offering" in this prospectus for a more detailed description of the terms and conditions of the rights offering.

Securities Offered

We are distributing, at no charge, to holders of our common stock, and to holders of the Underwriter Warrants, Series D preferred stock and Series F preferred stock, non-transferrable subscription rights to purchase up to an aggregate of 35,000 Units at a subscription price of \$1,000 per Unit. Each of such eligible holders will receive one (1) subscription right for each share of common stock owned or deemed to be owned as of 4:00 p.m., Eastern Time, on August 3, 2022. Each Unit consists of one share of Series I preferred stock and warrants to purchase 1,333 shares of our common stock. The Units will separate upon the closing of the rights offering and will be issued separately; however, they may only be purchased as a Unit and the Unit will not trade as a separate security.

Participation of Certain Holders of Warrants and Preferred Stock

The holders of the Underwriter Warrants, Series D preferred stock and Series F preferred stock have the right to participate in this rights offering. Each of such eligible holders will receive one (1) subscription right for each share of common stock that such holder's Underwriter Warrants are exercisable for and that such holder's Series D or Series F preferred stock is convertible into. A total of 3,732,211 subscription rights will be issued to holders of the Underwriter Warrants, Series D preferred stock and Series F preferred stock.

Series I Preferred Stock

Each share of Series I preferred stock will be convertible at the option of the holder at any time, into the number of shares of our common stock determined by dividing the \$1,000 stated value per share of the Series I preferred stock by the conversion price of \$0.75 per share, subject to adjustment.

Warrants

Each warrant entitles the holder to purchase 1,333 shares of common stock at an exercise price of \$0.80 per share, subject to adjustment. The warrants will be immediately exercisable and will expire 5 years from the date of issuance. The warrants will be exercisable for cash and, solely during any period when a registration statement for the exercise of the warrants is not in effect, on a cashless basis. We may redeem the warrants for \$0.01 per warrant if, among other factors, the volume-weighted average price of our common stock is above \$2.40 for ten consecutive trading days, provided that we may not do so prior to 1 year after the issuance date.

Basic Subscription Right

The basic subscription right will entitle you to purchase one (1) Unit at a subscription price of \$1,000 per Unit. You may exercise your basic subscription right for some or all of your subscription rights, or you may choose not to exercise your subscription rights. If you choose to exercise your subscription rights, there is no minimum number of Units you must purchase. We are distributing basic subscription rights to purchase an aggregate of 34,097,003 Units, but are only selling 35,000 Units in the rights offering. In the event that the rights offering is over-subscribed, rights holders will be entitled to their pro rata portion of the Units.

Over-Subscription Privilege

If you fully exercise your basic subscription right, you may also choose to exercise an over-subscription privilege to purchase additional Units in the offering. You will only be able to actually purchase additional Units pursuant to your over-subscription privilege if other eligible holders do not fully exercise their basic subscription rights and there are Units that remain unsubscribed at the expiration of the rights offering. In the event that holders exercise their over-subscription privilege such that the rights offering is over-subscribed, rights holders that have elected to exercise their over-subscription privilege will be entitled to their pro rata portion of the remaining Units.

Limitation of the Purchase of Units

In order to protect our ability to use our net operating losses and other tax benefits to offset potential future income taxes for federal income tax purposes, we reserve the right, in our sole discretion, to limit the number of Units any person or entity, together with related persons or entities, may purchase pursuant to the exercise of basic or over-subscription privileges, where such purchase, when aggregated with their existing ownership, would result in such person or entity, together with any related persons or entities, owning 4.99% or more of our issued and outstanding shares of common stock following the closing of the rights offering unless such person or entity has obtained a prior waiver from our board of directors to acquire, own or control such shares of common stock.

Record Date

August 3, 2022.

Expiration Date of the Rights Offering

5:00 p.m., Eastern Time, on August 17, 2022.

Subscription Price

\$1,000 per Unit, payable in cash, provided that certain holders of our outstanding common stock, Series D preferred stock and Series F preferred stock will have the option to pay the subscription price by cancelling or exchanging their shares of Series D preferred stock, Series F preferred stock and Series G preferred stock and our indebtedness evidenced by the Term Note. The fair market value of the shares of Series D preferred stock, Series F preferred stock and Series G preferred stock to be cancelled or exchanged will be determined by an independent appraisal to be obtained by us. To be effective, any payment related to the exercise of a right must clear prior to the expiration date of the rights offering.

Procedure for Exercising Subscription Rights

To exercise your Subscription Rights, you must take the following steps:

- If you are a record holder, as of the Record Date, of our common stock, Underwriter Warrants, Series D preferred stock and Series F preferred stock, you must deliver payment and a properly completed Rights Certificate to the Subscription Agent to be received before 5:00 p.m., Eastern Time, on August 17, 2022. You may deliver the documents and payments by first class mail or courier service. If you use first class mail for this purpose, we recommend using registered mail, properly insured, with return receipt requested.
- If as of the Record Date you are a beneficial owner of shares of our common stock, Underwriter Warrants, Series D preferred stock and Series F preferred stock that are registered in the name of a broker, dealer, bank or other nominee, you should instruct your broker, dealer, bank or other nominee to exercise your Subscription Rights on your behalf. Please follow the instructions of your nominee, who may require that you meet a deadline earlier than 5:00 p.m., Eastern Time, on August 17, 2022.

Payment Adjustments

If you send a payment that is insufficient to purchase the number of Units requested, or if the number of Units requested is not specified in the Rights Certificate, the payment received will be applied to exercise Subscription Rights to the extent of the payment. If the payment exceeds the amount necessary for the full exercise of your Subscription Rights, including any over-subscription privilege exercised and permitted, the excess will be returned to you promptly in cash. You will not receive interest or a deduction on any payments refunded to you under the Rights Offering.

Delivery of Securities

As soon as practicable after the expiration of the Rights Offering, payment for the Units subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, we expect to close on subscriptions and for the Subscription Agent to arrange for the issuance of the shares of Series I preferred stock and warrants purchased pursuant to the rights offering. All Series I preferred shares and warrants that are purchased in the rights offering will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration, or DRS, account statement from our transfer agent reflecting ownership of these securities if you are a holder of record. If you currently hold your securities in the name of a bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the securities you purchased in the rights offering.

No Revocation

Except as described below, all exercises of subscription rights are irrevocable, even if you later learn of information that you consider to be unfavorable to the exercise of your subscription rights.

Use of Proceeds

We are conducting the rights offering for funding our pivotal Phase 3 trial for RA (NAV3-33), obtaining regulatory approvals, working capital, and for general corporate purposes. See “Use of Proceeds” for a more detailed description of the intended use of proceeds from the rights offering.

Non-Transferability of Rights

The subscription rights granted to you may be exercised only by you, and, therefore, you may not sell, transfer or assign your subscription rights to anyone else.

Extension, Amendment and Termination

Although we do not presently intend to do so, we may extend the Rights Offering for additional time in our sole discretion for any reason for up to an additional 45 days. For example, we may decide that changes in the market price of our common stock warrant an extension, or we may decide that the degree of stockholder participation in the Rights Offering is less than the level we desire. In the event that we decide to extend the Rights Offering and you have already exercised your Subscription Rights, your subscription payment will remain with the Subscription Agent until such time as the Rights Offering closes or is terminated. We also reserve the right to amend or modify the terms of the Rights Offering, as appropriate. Our board of directors may for any reason terminate the Rights Offering at any time before the expiration of the Rights Offering. In the event that the Rights Offering is cancelled, all subscription payments received by the Subscription Agent will be returned, without interest or deduction, as soon as practicable.

If we should make any fundamental changes to the terms set forth in this prospectus, we will (i) file a post-effective amendment to the registration statement of which this prospectus forms a part, (ii) offer potential purchasers who have subscribed for rights the opportunity to cancel such subscriptions and issue a refund of any money advanced by such stockholder or eligible warrant holder, and (iii) recirculate an updated prospectus after the post-effective amendment is declared effective with the SEC.

Subscription Agent and Information Agent

Broadridge will serve as our subscription agent and information agent for the rights offering.

Dealer-Manager

Maxim Group LLC will act as dealer-manager for the Rights Offering.

Material U.S. Federal Income Tax Consequences

Although the authorities governing transactions such as the rights offering are complex and unclear in certain respects, we believe and intend to take the position that the distribution of subscription rights to you with respect to your shares of our stock should generally be treated, for U.S. federal income tax purposes, as a non-taxable distribution. See “Material U.S. Federal Income Tax Consequences” beginning on page 31. You should consult your tax advisor as to the particular consequences to you of the rights offering.

Shares To Be Outstanding Immediately After the Rights Offering

As of July 15, 2022, 30,364,792 shares of our common stock were issued and outstanding. Assuming no additional shares of capital stock are issued by us prior to the expiration of the rights offering, and assuming the rights offering is fully subscribed for cash, we will have 30,364,792 shares of common stock, 22,077 shares of Series D preferred stock, 1,740 shares of Series F preferred stock, 3,260 shares of Series G preferred stock, 35,000 shares of Series I preferred stock, and warrants to purchase 47,088,991 additional shares of our common stock issued and outstanding.

The number of shares of our common stock outstanding prior to and immediately after this rights offering, as set forth above, excludes the following potentially dilutive securities as of July 15, 2022:

- 422,324 shares of our common stock issuable upon the exercise of outstanding common stock purchase warrants, having a weighted-average exercise price of \$2.30 per share.
- 726,080 shares of our common stock issuable upon the exercise of outstanding stock options, having a weighted average exercise price of \$4.52 per share;
- 563,953 shares of our common stock available for future grants under our 2014 Stock Incentive Plan;
- 1,368,211 shares of our common stock issuable upon the conversion of the 22,077 shares of Series D preferred stock; and
- 2,175,000 shares of our common stock issuable upon the conversion of the 1,740 shares of Series F preferred stock.

Risk Factors

Investing in our securities involves a high degree of risk. You should carefully read and consider the information on page 17 of this prospectus set forth under the headings “Risk Factors” and all other information set forth in this prospectus and the documents incorporated herein by reference before deciding to invest in our common stock.

Dividend Policy

We have never declared or paid any cash dividends to the holders of our common stock and we do not expect to pay cash dividends in the foreseeable future. We currently intend to retain any earnings for use in connection with the expansion of our business and for general corporate purposes.

NYSE American Symbol for Common Stock

NAVB

Market for Series I Preferred Stock and Warrants

There is no established trading market for the Series I preferred stock and for the warrants, and we do not expect a market to develop for either of them. We do not intend to apply for listing of the Series I preferred stock and the warrants on any securities exchange or recognized trading system.

Warrant Agent, Transfer Agent and Registrar

Continental Stock Transfer & Trust Company, LLC
One State Street, 30th Floor
New York, NY 10004
(212) 509-4000

Questions

If you have any questions about the rights offering, please contact the information agent, Broadridge, toll free at (888) 789-8409 or by email at shareholder@broadridge.com.

QUESTIONS AND ANSWERS ABOUT THE RIGHTS OFFERING

The following are examples of what we anticipate may be common questions about the rights offering. The answers are based on selected information included elsewhere in this prospectus. The following questions and answers do not contain all of the information that may be important to you and may not address all of the questions that you may have about the rights offering. This prospectus and the documents incorporated by reference into this prospectus contain more detailed descriptions of the terms and conditions of the rights offering and provide additional information about us and our business, including potential risks related to the rights offering, the shares of common stock offered hereby, and our business. We urge you to read this entire prospectus and the documents incorporated by reference into this prospectus.

Why are we conducting the rights offering?

We are conducting the offering to raise capital that we intend to use for funding our pivotal Phase 3 trial for Rheumatoid Arthritis (NAV3-33), obtaining regulatory approvals, working capital, and general corporate purposes.

What is the rights offering?

We are distributing to holders of our common stock, and holders of the Underwriter Warrants, Series D preferred stock and Series F preferred stock, at no charge, non-transferable subscription rights to purchase Units. On the Record Date, August 3, 2022, you will receive one (1) subscription right for each whole share of common stock that you owned or were deemed to own as of 4:00 p.m., Eastern Time, on August 3, 2022. Each subscription right will entitle the holder to a basic subscription right and an over-subscription privilege.

What is a Unit?

Each Unit consists of one (1) share of Series I preferred stock and a warrant to purchase 1,333 shares of common stock, at a subscription price of \$1,000 per Unit. We do not intend to issue fractional Units. The shares of Series I preferred stock and warrants that comprise each Unit are immediately separable and will be issued separately in this rights offering, however, they may only be purchased as a Unit, and the Units will not trade as a separate security.

What is the basic subscription right?

Each basic subscription right will entitle you to purchase one (1) Unit at the subscription price. For example, if you owned or were deemed to own 100 shares of common stock on the Record Date, you will receive 100 subscription rights to purchase 100 shares of our Series I preferred stock and warrants to purchase 133,300 shares of our common stock for a total payment of \$100,000. You may exercise all or a portion of your basic subscription right or you may choose not to exercise any basic subscription right at all. If you choose to exercise your subscription rights, there is no minimum number of Units you must purchase. We are distributing basic subscription rights to purchase an aggregate of 34,097,003 Units, but are only selling 35,000 Units in the rights offering. In the event that the rights offering is over-subscribed, rights holders will be entitled to their pro rata portion of the Units. If enough Units are available, we will seek to honor your basic subscription right in full. If basic subscription rights requests exceed the number of Units available, however, we will allocate the available Units pro-rata among the rights holders exercising the basic subscription rights in proportion to the number of shares of our common stock each of those rights holders owned or were deemed to own on the Record Date, relative to the number of shares owned or deemed to be owned on the Record Date by all rights holders exercising the basic subscription right. If this pro-rata allocation results in any rights holders receiving a greater number of Units than the rights holder subscribed for pursuant to the exercise of the basic subscription right, then such record holder will be allocated only that number of Units for which the record holder subscribed, and the remaining Units will be allocated among all other rights holders exercising the basic subscription right on the same pro rata basis described above. The proration process will be repeated until all Units have been allocated.

If you are a record holder, the number of shares and warrants you may purchase pursuant to your basic subscription right is indicated on the subscription rights certificate. If you hold your common stock, Underwriter Warrants, Series D preferred stock or Series F preferred stock in the name of a broker, dealer, bank, or other nominee who uses the services of the Depository Trust Company, or DTC, you will not receive a subscription rights statement. Instead, DTC will issue your subscription rights to your nominee record holder for each share of our common stock that you own or are deemed to own as of the Record Date. If you are not contacted by your nominee, you should contact your nominee as soon as possible.

What is the over-subscription privilege?

If you exercise your basic subscription right in full, you may also choose to exercise your over-subscription privilege to purchase a portion of the Units that the other rights holders do not purchase through the exercise of their basic subscription right. You should indicate on your subscription rights certificate, or the form provided by your nominee if your shares or Underwriter Warrants are held in the name of a nominee, the number of additional Units you would like to apply to purchase pursuant to your over-subscription privilege.

If enough Units are available, we will seek to honor your over-subscription request in full. If over-subscription requests exceed the number of Units available, however, we will allocate the available Units pro-rata among the rights holders exercising the over-subscription privilege in proportion to the number of shares of our common stock each of those rights holders owned or were deemed to own on the Record Date, relative to the number of shares owned or deemed to be owned on the Record Date by all rights holders exercising the over-subscription privilege. If this pro-rata allocation results in any rights holders receiving a greater number of Units than the rights holder subscribed for pursuant to the exercise of the over-subscription privilege, then such record holder will be allocated only that number of Units for which the record holder subscribed, and the remaining Units will be allocated among all other rights holders exercising the over-subscription privilege on the same pro rata basis described above. The proration process will be repeated until all Units have been allocated.

To properly exercise your over-subscription privilege, you must deliver to the subscription agent the subscription payment related to your over-subscription privilege before the rights offering expires. See “The Rights Offering — Over-Subscription Privilege.” To the extent you properly exercise your over-subscription privilege for a number of Units that exceeds the number of unsubscribed Units available to you, any excess subscription payments will be returned to you as soon as practicable after the expiration of the rights offering, without interest or penalty.

Our subscription agent for the rights offering will determine the over-subscription allocation based on the formula described above.

Are there any limits on the number of shares I may purchase in the rights offering or own as a result of the rights offering?

In order to protect our ability to use our net operating losses and other tax benefits to offset potential future income taxes for federal income tax purposes, we reserve the right, in our sole discretion, to limit the number of Units any person or entity, together with related persons or entities, may purchase pursuant to the exercise of basic or over-subscription privileges, where such purchase, when aggregated with their existing ownership, would result in such person or entity, together with any related persons or entities, owning 4.99% or more of our issued and outstanding shares of common stock following the closing of the rights offering unless such person or entity has obtained a prior waiver from our board of directors to acquire, own or control such shares of common stock.

May the Subscription Rights that I exercise be reduced for any reason?

Yes. While we are distributing to holders of our common stock, holders of the Underwriter Warrants, Series D preferred stock and Series F preferred stock, one Subscription Right for every share of common stock owned or deemed to be owned on the Record Date, we are only seeking to raise \$35 million dollars in gross proceeds in this Rights Offering. As a result, based on 30,364,792 shares of common stock outstanding as of July 15, 2022, 189,000 shares of common stock issuable upon exercise of the Underwriter Warrants, 1,368,211 shares of common stock issuable upon conversion of the Series D preferred stock and 2,175,000 shares of common stock issuable upon conversion of the Series F preferred stock, we would grant Subscription Rights to acquire 34,097,003 Units but will only accept subscriptions for 35,000 Units. Accordingly, enough Units may not be available to honor your subscription in full. If exercises of basic subscription rights exceed the number of Units available in the Rights Offering, we will allocate the available Units pro-rata among the holders exercising the basic subscription rights in proportion to the number of shares of our common stock (including each share of common stock issuable upon exercise of the Underwriter Warrants and conversion of Series D preferred stock and Series F preferred stock) each of those holders owned on the Record Date, relative to the number of shares owned on the Record Date by all record holders exercising the basic subscription right. If this pro-rata allocation results in any record holders receiving a greater number of Units than the record holder subscribed for pursuant to the exercise of the basic subscription rights, then such record holder will be allocated only that number of Units for which the record holder subscribed, and the remaining Units will be allocated among all other record holders exercising their basic subscription rights on the same pro rata basis described above. The proration process will be repeated until all Units have been allocated. Please also see the discussion under “The Rights Offering—Over-Subscription Privilege” and “The Rights Offering—Limitation on the Purchase of Units” for a description potential proration as to the over-subscription privilege and certain stock ownership limitations.

If for any reason the number of Units allocated to you is less than you have subscribed for, then the excess funds held by the Subscription Agent on your behalf will be returned to you, without interest, as soon as practicable after the Rights Offering has expired and all prorating calculations and reductions contemplated by the terms of the Rights Offering have been effected, and we will have no further obligations to you.

What are the terms of the Series I preferred stock?

Each share of Series I preferred stock will be convertible at the option of the holder at any time, into the number of shares of our common stock determined by dividing the \$1,000 stated value per share of the Series I preferred stock by the conversion price of \$0.75 per share, subject to adjustment. The Series I preferred stock has certain conversion rights and dividend rights as described in more detail herein.

What are the terms of the warrants?

Each warrant entitles the holder to purchase 1,333 shares of our common stock at an exercise price of \$0.80 per share from the date of issuance through its expiration five years from the date of issuance. The warrants will be exercisable for cash, or, solely during any period when a registration statement for the exercise of the warrants is not in effect, on a cashless basis. We may redeem the warrants for \$0.01 per warrant at any time 1 year after the issuance date if, among other conditions, the volume-weighted average price of our common stock is above \$2.40 for ten consecutive trading days.

Are the Series I preferred stock or warrants listed?

There is no public trading market for the Series I preferred stock or warrants and we do not intend that they will be listed for trading on NYSE American or any other securities exchange or recognized trading system. The warrants will be issued in registered form under a warrant agent agreement with Continental Stock Transfer & Trust Company, LLC, as warrant agent.

Will fractional shares be issued upon exercise of subscription rights, the conversion of the Series I preferred stock or the exercise of warrants?

We do not intend to issue fractional shares of Series I preferred stock or fractional shares of common stock upon exercise of warrants issued in the rights offering. To the extent that rounding occurs, any excess subscription payments received by the subscription agent will be returned as soon as practicable after expiration of the rights offering, without interest or penalty.

In addition, no fractional shares of common stock will be issued as a result of the conversion of the Series I preferred stock or the exercise of warrants. Instead, for any such fractional share that would otherwise have been issuable upon conversion of shares of Series I preferred stock, we may, at our election, pay a cash payment equal to such fraction multiplied by the conversion price or round up to the next whole share, and for any such fractional share that would have otherwise been issued upon exercise of warrants, we will round up such fraction to the next whole share. For clarity, we may issue fractional shares of Series I preferred stock as part of the rights offering.

What effect will the rights offering have on our outstanding common stock?

On July 15, 2022, 30,364,792 shares of our common stock were outstanding. Assuming no additional shares of common stock are issued by us prior to the expiration of the rights offering, assuming this rights offering is fully subscribed for cash, approximately 30,364,792 shares of our common stock will be issued and outstanding; 35,000 shares of Series I preferred stock will be issued and outstanding and convertible into an aggregate of 46,666,667 shares of our common stock; and warrants to purchase an additional 46,666,667 shares of our common stock will be outstanding. The exact number of shares of Series I preferred stock and warrants that we will issue in this rights offering will depend on the number of Units that are subscribed for in the rights offering.

How was the subscription price formula determined?

Our board of directors determined the subscription price taking into consideration, among other things, the following factors:

- the current and historical trading prices of our common stock on the NYSE American;
- the price at which stockholders might be willing to participate in the rights offering;
- the value of the common stock issuable upon conversion of the Series I preferred stock being issued as a component of the Unit;
- the value of the warrant being issued as a component of the Unit;
- our need for additional capital and liquidity;
- the cost of capital from other sources; and
- comparable precedent transactions, including the percentage of shares offered, the terms of the subscription rights being offered, the subscription price and the discount that the subscription price represented to the immediately prevailing closing prices for those offerings.

In conjunction with the review of these factors, our board of directors reviewed our history and prospects, including our past and present earnings and cash requirements, our prospects for the future, the outlook for our industry and our current financial condition. Our board of directors believes that the subscription price should be designed to provide an incentive to our current stockholders to participate in the rights offering and exercise their basic subscription right and their over-subscription privilege.

The subscription price does not necessarily bear any relationship to any established criteria for value. You should not consider the subscription price as an indication of actual value of our company or our common stock. We cannot assure you that the market price of our common stock will not decline during or after the rights offering. You should obtain a current price quote for our common stock and perform an independent assessment of our series I preferred stock and warrants before exercising your subscription rights and make your own assessment of our business and financial condition, our prospects for the future, and the terms of this rights offering. Once made, all exercises of subscription rights are irrevocable.

Am I required to exercise all of the basic subscription right I receive in the rights offering?

No. You may exercise any number of your basic subscription rights, or you may choose not to exercise any basic subscription right. If you do not exercise any basic subscription right, the number of shares of our common stock you own will not change. However, if you choose not to exercise your basic subscription right in full, your proportionate ownership interest in our company may decrease. If you do not exercise your basic subscription right in full, you will not be entitled to exercise your over-subscription privilege.

How soon must I act to exercise my subscription rights?

If you received a subscription rights certificate and elect to exercise any or all of your subscription rights, the subscription agent must receive your completed and signed subscription rights certificate and payment for both your basic subscription right and any over-subscription privilege you elect to exercise before the rights offering expires on August 17, 2022, at 5:00 p.m. Eastern Time. If you hold your common stock, Underwriter Warrants, Series D preferred stock or Series F preferred stock in the name of a broker, dealer, custodian bank, or other nominee, your nominee may establish a deadline before the expiration of the rights offering by which you must provide it with your instructions to exercise your subscription rights, along with the required subscription payment.

May I transfer my subscription rights?

No. The subscription rights may be exercised only by the eligible stockholders or warrant holders to whom they are distributed, and they may not be sold, transferred, assigned or given away to anyone else, other than by operation of law. As a result, a subscription rights certificate may be completed only by the stockholder or warrant holder who receives the statement. The subscription rights will not be listed for trading on any stock exchange or market.

Is Navidea requiring a minimum subscription amount to complete the rights offering?

There is no aggregate minimum subscription amount we must receive to complete the rights offering.

Is there any back-stop or standby purchase commitment in place to purchase rights that are not exercised in the offering?

No, there is not a back-stop or standby purchase commitment in place to purchase rights that are not exercised in the rights offering.

If the rights offering is not completed, will my subscription payment be refunded to me?

Yes. The subscription agent will hold all funds it receives in escrow until completion of the rights offering. If the rights offering is not completed, the subscription agent will return promptly, without interest, all subscription payments. If you own shares or Underwriter Warrants in “street name,” it may take longer for you to receive your subscription payment because the subscription agent will return payments through the record holder of your shares or Underwriter Warrants. We reserve the right to terminate the offering at any time if, due to market conditions or otherwise, our board of directors deems it advisable not to proceed with the rights offering.

Will our directors and executive officers participate in the rights offering?

To the extent they hold common stock or Series F preferred stock as of the Record Date, our directors and executive officers will be entitled to participate in the rights offering on the same terms and conditions applicable to other rights holders, except that John K. Scott, Jr., who is a member of our board of directors, will have the option to pay the subscription price in this rights offering by cancelling or exchanging his shares of Series F preferred stock and Series G preferred stock and the outstanding principal amount of and accrued but unpaid interest under our Term Note payable to him. None of our directors or executive officers has entered into any binding commitment or agreement to exercise subscription rights received in the rights offering. The fair market value of the shares of Series F preferred stock, Series G preferred stock and Term Note to be cancelled or exchanged will be determined by an independent appraisal to be obtained by us.

Mr. Scott beneficially owns 10,253,534 shares of our common stock, representing 31.5% of the outstanding shares, including shares issuable upon the conversion, if any, of Series F preferred stock. Mr. Scott may exercise some or all of his subscription rights, but he has not made any a decision with respect to exercising his basic subscription right or over-subscription privilege at this time. If Mr. Scott fully exercises his basic subscription right and fully or partially exercises his over-subscription privilege, Mr. Scott could become the beneficial owner of a majority of the outstanding shares of our common stock. In this event, Mr. Scott could control the election of all members of our board of directors and could control the results of all future stockholder votes.

Has the board of directors made a recommendation to stockholders regarding the rights offering?

No. Our board of directors is not making a recommendation regarding your exercise of the subscription rights. Rights holders who exercise subscription rights will incur investment risk on new money invested. We cannot predict the price at which our shares of common stock will trade after the rights offering. You should make your decision based on your assessment of our business and financial condition, our prospects for the future, the terms of the rights offering and the information contained in this prospectus. See “Risk Factors” for discussion of some of the risks involved in investing in our securities.

How do I exercise my subscription rights?

If you hold your common stock, Underwriter Warrants, Series D preferred stock or Series F preferred stock in your name and not through a broker, dealer, bank, or other nominee) on the Record Date and you wish to participate in the rights offering, you must deliver a properly completed and signed subscription rights certificate, together with payment of the subscription price for both your basic subscription right and any over-subscription privilege you elect to exercise, to the subscription agent before 5:00 p.m. Eastern Time, on August 17, 2022. If you are exercising your subscription rights through your broker, dealer, bank, or other nominee, you should promptly contact your broker, dealer, bank, or other nominee and submit your subscription documents and payment for the shares of common stock subscribed for in accordance with the instructions and within the time period provided by your broker, dealer, bank or other nominee.

What if my shares are held in “street name”?

If you hold your common stock, Underwriter Warrants, Series D preferred stock or Series F preferred stock in the name of a broker, dealer, bank, or other nominee, then your broker, dealer, bank, or other nominee is the record holder of the shares you own. The record holder must exercise the subscription rights on your behalf. Therefore, you will need to have your record holder act for you.

If you wish to participate in this rights offering and purchase Units, please promptly contact the record holder of your shares. We will ask the record holder, who may be your broker, dealer, bank, or other nominee, to notify you of this rights offering.

What form of payment is required?

You must timely pay the full subscription price pursuant to the exercise of subscription rights by delivering to the subscription agent a cashier's check, certified check, bank draft or personal check that clears before the expiration date or a wire transfer of immediately available funds. However, certain holders of our outstanding common stock, Series D preferred stock and Series F preferred stock will have the option to pay the subscription price by cancelling or exchanging their shares of Series D preferred stock, Series F preferred stock and Series G preferred stock and the outstanding principal amount of and accrued but unpaid interest under the Term Note. The fair market value of the shares of Series D preferred stock, Series F preferred stock and Series G preferred stock to be cancelled or exchanged will be determined by an independent appraisal to be obtained by us.

Please note that funds paid by uncertified personal check may take at least five (5) business days to clear. If you decide to pay by means of an uncertified personal check, we urge you to make payment sufficiently in advance of the expiration date to ensure that the subscription agent receives cleared funds before that time.

When will I receive my new shares of Series I preferred stock and warrants?

The subscription agent will arrange for the issuance of the Series I preferred stock and warrants as soon as practicable after the expiration of the rights offering, payment for the Units subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected. All shares and warrants that you purchase in the rights offering will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration (DRS) account statement from our transfer agent reflecting ownership of these securities if you are a holder of record. If you hold your shares or Underwriter Warrants in the name of a broker, dealer, bank, or other nominee, DTC will credit your account with your nominee with the securities you purchase in the rights offering.

After I send in my payment and subscription rights certificate to the subscription agent may I cancel my exercise of subscription rights?

No. Exercises of subscription rights are irrevocable unless the rights offering is terminated, even if you later learn information that you consider to be unfavorable to the exercise of your subscription rights. You should not exercise your subscription rights unless you are certain that you wish to participate in the rights offering.

How much will Navidea receive from the rights offering?

Assuming the rights offering is fully subscribed for cash, including any over-subscription privilege, we estimate that the net proceeds from the rights offering will be approximately \$32.12 million, after deducting fees and expenses payable to the dealer-manager and other estimated offering expenses payable by us, and excluding any proceeds received upon exercise of any warrants. If all warrants included in the Units are exercised for cash, we will receive an additional \$26.25 million.

If certain holders of our outstanding common stock, Series D preferred stock and Series F preferred stock pay the subscription price by cancelling or exchanging all of their shares of Series D preferred stock, Series F preferred stock and Series G preferred stock and the entire principal balance of and accrued interest under the Term Note, and assuming the rights offering is fully subscribed, we estimate that the net proceeds from the rights offering will be approximately \$ • million.

Are there risks in exercising my subscription rights?

Yes. The exercise of your subscription rights involves risks. Exercising your subscription rights Units involves buying shares of our Series I preferred stock and warrants to purchase our common stock and you should consider this investment as carefully as you would consider any other investment. We do not intend to list our Series I preferred stock and warrants on NYSE American and a market for the Series I preferred stock and warrants does not exist. You should carefully consider the risks described under the heading "Risk Factors" for discussion of some of the risks involved in investing in our securities.

Can the board of directors terminate or extend the rights offering?

Yes. Our board of directors may decide to terminate the rights offering at any time and for any reason before the expiration of the Rights Offering. We also have the right to extend the rights offering for additional periods in our sole discretion for up to an additional 45 days. We do not presently intend to extend the rights offering. We will notify stockholders and the public if the rights offering is terminated or extended by issuing a press release announcing the extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration date of the rights offering. In the event that we decide to extend the rights offering and you have already exercised your Subscription Rights, your subscription payment will remain with the Subscription Agent until such time as the rights offering closes or is terminated.

Our board of directors also reserves the right to amend or modify the terms of the rights offering in its sole discretion. If we should make any fundamental changes to the terms of the rights offering set forth in this prospectus, we will file a post-effective amendment to the registration statement in which this prospectus is included, offer potential purchasers who have subscribed for rights the opportunity to cancel such subscriptions and issue a refund of any money advanced by such stockholder and recirculate an updated prospectus after the post-effective amendment is declared effective by the SEC. In addition, upon such event, we may extend the expiration date of the rights offering to allow holders of rights ample time to make new investment decisions and for us to recirculate updated documentation. Promptly following any such occurrence, we will issue a press release announcing any changes with respect to the rights offering and the new expiration date. The terms of the rights offering cannot be modified or amended after the expiration date of the rights offering. Although we do not presently intend to do so, we may choose to amend or modify the terms of the rights offering for any reason, including, without limitation, in order to increase participation in the Rights Offering. Such amendments or modifications may include a change in the subscription price, although no such change is presently contemplated. If we should make any fundamental changes to the terms set forth in this prospectus, we will (i) file a post-effective amendment to the registration statement of which this prospectus forms a part, (ii) offer potential purchasers who have subscribed for rights the opportunity to cancel such subscriptions, and (iii) issue a refund of any money advanced by such stockholder or eligible warrant holder and recirculate an updated prospectus after the post-effective amendment is declared effective with the SEC.

If the rights offering is not completed or is terminated, will my subscription payment be refunded to me?

Yes. The Subscription agent will hold all funds it receives in a segregated bank account until completion of the rights offering. If we cancel the offering, you will receive a refund of the money you have advanced, without interest. If you own stock or warrants in “street name,” it may take longer for you to receive your subscription payment because the Subscription agent will return payments through the record holder of your stock or warrants.

How do I exercise my subscription rights if I live outside the United States?

The Subscription agent will hold subscription rights certificates for stockholders having addresses outside the United States. To exercise subscription rights, foreign stockholders must notify the subscription agent and timely follow other procedures described in the section entitled “The Rights Offering — Foreign Stockholders”.

What fees or charges apply if I purchase Units?

We are not charging any fee or sales commission to issue subscription rights to you or to issue shares of Series I preferred stock or warrants to you if you exercise your subscription rights. If you exercise your subscription rights through the record holder of your shares, you are responsible for paying any fees your record holder may charge you.

What are the U.S. federal income tax consequences of exercising subscription rights?

The U.S. federal income tax consequences of the rights offering will depend on whether the rights offering is part of a “disproportionate distribution.” We intend to take the reporting position that the subscription rights issued to stockholders pursuant to the rights offering (a) are not part of a “disproportionate distribution” and (b) will not be a taxable distribution with respect to your existing securities. The disproportionate distribution rules are complicated, however, and their application is uncertain, and thus we are unable to obtain a definitive tax counsel opinion regarding the application of such rules. The position we are taking is not binding on the Internal Revenue Service (“IRS”) or the courts and it is possible that the IRS could successfully challenge our reporting position and assert that the rights offering is a taxable distribution. You should consult your tax advisor as to the tax consequences of the rights offering in light of your particular circumstances. For a more detailed discussion, see “Material U.S. Federal Income Tax Consequences” on page 31.

To whom should I send my forms and payment?

If your shares are held in the name of a broker, dealer or other nominee, then you should send your subscription documents, rights certificate, notices of guaranteed delivery and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate, notices of guaranteed delivery and subscription payment by registered mail, return receipt requested or courier service to:

By Mail:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS Re-Organization Dept.
P.O. Box 1317
Brentwood, NY 11717-0718

By Courier:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS IWS
51 Mercedes Way
Edgewood, NY 11717

You are solely responsible for completing delivery to the subscription agent of your subscription documents, rights certificate and payment. We urge you to allow sufficient time for delivery of your subscription materials to the subscription agent.

Whom should I contact if I have other questions?

If you have any questions about the rights offering, including questions about subscription procedures and requests for additional copies of this prospectus or other documents, please contact the information agent, Broadridge, at (888) 789-8409 or by email at shareholder@broadridge.com.

Who is the dealer-manager?

Maxim Group LLC is acting as the sole dealer-manager for the rights offering. Under the terms and subject to the conditions contained in the dealer-manager agreement, the dealer-manager will use its best efforts to solicit the exercise of subscription rights. We have agreed to pay the dealer-manager certain fees for acting as dealer-manager and to reimburse the dealer-manager for certain out-of-pocket expenses incurred in connection with this offering. The dealer-manager is not underwriting or placing any of the subscription rights or the shares of our Series I preferred stock or warrants being issued in the rights offering and is not making any recommendation with respect to such subscription rights (including with respect to the exercise or expiration of such subscription rights), shares of Series I preferred stock or warrants.

RISK FACTORS

Investing in our securities involves a high degree of risk. Prior to making a decision about investing in our securities, you should carefully consider the risk factors set forth below, the other information contained in this prospectus and any other risks described in our filings with the SEC, including but not limited to under the section entitled “Risk Factors” contained in our annual report on Form 10-K for the fiscal year ended December 31, 2021, as amended or supplemented by subsequently filed quarterly reports on Form 10-Q and Current Reports on Form 8-K. Any of these risks could materially and adversely affect our business, financial condition, results of operations, liquidity and cash flows. In such a case, you may lose all or part of your investment. The risks described below and referenced above are not the only risks facing us. Additional risks and uncertainties not currently known to us or those we currently view to be immaterial may also materially adversely affect our business, financial condition, results of operations, liquidity and cash flows. If any of the risks or uncertainties described in this prospectus or our SEC filings or any such additional risks and uncertainties actually occur, our business, financial condition or results of operations could be materially and adversely affected, which could cause our actual operating results to differ materially from those indicated or suggested by forward-looking statements made in this prospectus or our SEC filings or presented elsewhere by management from time to time. In that case, the trading price of our common stock could decline and you could lose all or part of your investment. Please also see “Special Note Regarding Forward-Looking Statements” beginning on page 2.

Risks Related to this Rights Offering and Our Common Stock

Our failure to maintain continued compliance with the listing requirements of the NYSE American exchange could result in the delisting of our common stock.

Our common stock has been listed on the NYSE American since February 2011. The rules of NYSE American provide that shares be delisted from trading in the event the financial condition and/or operating results of the Company appear to be unsatisfactory, the extent of public distribution or the aggregate market value of the Common Stock has become so reduced as to make further dealings on the NYSE American inadvisable, the Company has sold or otherwise disposed of its principal operating assets, or has ceased to be an operating company, or the Company has failed to comply with its listing agreements with the NYSE American. For example, the NYSE American may consider suspending trading in, or removing the listing of, securities of an issuer that has stockholders’ equity of less than (i) \$2.0 million if such issuer has sustained losses from continuing operations and/or net losses in two of its three most recent fiscal years, (ii) \$4.0 million if such issuer has sustained losses from continuing operations and/or net losses in three of its four most recent fiscal years, and (iii) \$6.0 million if such issuer has sustained losses from continuing operations and/or net losses in its five most recent fiscal years.

On January 28, 2022, the Company received a notification from the NYSE American LLC (the “NYSE American”) stating that the Company was not in compliance the \$6.0 million stockholders’ equity requirement of Section 1003(a)(iii) of the NYSE American Company Guide. As required by the NYSE American, the Company submitted a plan to the NYSE American by February 28, 2022 advising of actions it has taken or will take to regain compliance with the continued listing standards by July 28, 2023.

On April 8, 2022, the Company received a notification (the “Acceptance Letter”) from the NYSE American that the Company’s plan to regain compliance was accepted. The Acceptance Letter also stated that the Company is also not in compliance with Sections 1003(a)(i) and 1003(a)(ii) of the NYSE American Company Guide, which require an issuer to have stockholders’ equity of (i) \$2.0 million or more if it has reported losses from continuing operations and/or net losses in two out of its three most recent fiscal years, and (ii) \$4.0 million or more if it has reported losses from continuing operations in three out of its four most recent fiscal years. The Acceptance Letter noted that the Company had stockholders’ equity of \$624,743 as of December 31, 2021 and has reported net losses from continuing operations in its five most recent fiscal years ended December 31, 2021.

The NYSE American has granted the Company a plan period through July 28, 2023 to regain compliance with Sections 1003(a)(i), (ii) and (iii). If the Company is not in compliance with all continued listing standards by that date or if the Company does not make progress consistent with the plan during the plan period, the NYSE American may commence delisting procedures.

Our common stock will continue to be listed on the NYSE American while we attempt to regain compliance with the listing standard noted, subject to our compliance with other continued listing requirements. Our common stock will continue to trade under the symbol “NAVB,” but will have an added designation of “.BC” to indicate that we are not in compliance with the NYSE American’s listing standards. The NYSE American notification does not affect our business operations or our SEC reporting requirements and does not conflict with or cause an event of default under any of our material agreements.

The delisting of our common stock from the NYSE American likely would reduce the trading volume and liquidity in our common stock and may lead to decreases in the trading price of our common stock. The delisting of our common stock may also materially impair our stockholders’ ability to buy and sell shares of our common stock. In addition, the delisting of our common stock could significantly impair our ability to raise capital.

As a result of the rights offering, a major stockholder may become the majority holder of our common stock and may have the ability to control the election of directors and all other stockholder votes.

John K. Scott, Jr., who is a member of our Board of Directors, beneficially owns 10,253,534 shares of common stock, representing 31.5% of the outstanding common stock. Mr. Scott may exercise some or all of his subscription rights, but he has not made a decision with respect to exercising his basic subscription right or over-subscription privilege at this time. If Mr. Scott fully exercises his basic subscription right and fully or partially exercises his over-subscription privilege to purchase additional Units that remain unsubscribed, Mr. Scott could become the beneficial owner of a majority of the outstanding shares of our common stock. In this event, Mr. Scott could control the election of all members of our Board of Directors and could control the results of all stockholder votes.

The subscription price determined for this rights offering is not necessarily an indication of our value.

In determining the subscription price, our board of directors considered a number of factors, including, but not limited to, our need to raise capital in the near term to continue our operations, the current and historical trading prices of our common stock, a price that would increase the likelihood of participation in the rights offering, the cost of capital from other sources, the value of the Series I preferred stock and warrants being issued as components of the Unit, and comparable precedent transactions. The subscription price does not necessarily bear any relationship to any established criteria for value. No valuation consultant or investment banker has opined upon the fairness or adequacy of the subscription price. You should not consider the subscription price as an indication of the value of our company or our common stock.

The rights offering may cause the price of our common stock to decline.

Depending upon the market price of our common stock at the time of our announcement of the rights offering and its terms, including the subscription price, together with the number of shares of common stock issuable upon conversion or exercise of the Series I preferred stock and warrants we could issue if the rights offering is completed, may result in a decrease in the market price of our common stock. This decrease may continue after the completion of the rights offering. If that occurs, you may have committed to purchase shares of our common stock at a price greater than the prevailing market price. Further, if a substantial number of subscription rights are exercised and holders of the shares received upon conversion or exercise of the Series I preferred stock and warrants received in the rights offering choose to sell some or all the shares of common stock, the resulting sales could depress the market price of our common stock.

Because you may not revoke or change your exercise of the subscription rights, you could be committed to buying shares above the prevailing market price at the time the rights offering is completed.

Once you exercise your subscription rights, you may not revoke or change the exercise. The market price of our common stock may decline before the subscription rights expire. If you exercise your subscription rights, and, afterwards, the market price of our common stock decreases below the subscription price, you will have committed to buying shares of our common stock at a price above the prevailing market price and could have an immediate unrealized loss.

Our common stock is traded on the NYSE American Exchange under the symbol “NAVB,” and the closing sale price of our common stock on July 19, 2022 was \$0.69 per share. There can be no assurances that the market price of our common stock will equal or exceed the subscription price at the time of exercise or at the expiration of the subscription rights offering period.

You may not be able to resell any shares of our common stock that you purchase pursuant to the exercise of subscription rights immediately upon expiration of the subscription rights offering period or be able to sell your shares at a price equal to or greater than the subscription price.

If you exercise subscription rights, you may not be able to resell the common stock purchased by exercising your subscription rights until you, or your broker, custodian bank or other nominee, if applicable, have received those shares. Moreover, you will have no rights as a shareholder of the shares you purchased in the rights offering until we issue the shares to you. Although we will endeavor to issue the shares as soon as practicable after completion of the rights offering, including the guaranteed delivery period and after all necessary calculations have been completed, there may be a delay between the expiration date of the rights offering and the time that the shares are issued. In addition, we cannot assure you that, following the exercise of your subscription rights, you will be able to sell your common stock at a price equal to or greater than the subscription price.

You may not receive all of the Units for which you subscribe.

While we are distributing to holders of shares and Underwriter Warrants one subscription right for every share of common stock owned or deemed to be owned on the Record Date, we are only seeking to raise \$35 million dollars in gross proceeds in this rights offering. As a result, based on 30,364,792 shares of common stock outstanding, 22,077 shares of Series D preferred stock outstanding, 1,740 shares of Series F preferred stock outstanding and 189,000 Underwriter Warrants outstanding, in each case, as of July 15, 2022, we would grant subscription rights to acquire 34,097,003 Units but will only accept subscriptions for 35,000 Units. Accordingly, enough Units may not be available to honor your subscription in full. If excess Units are available after the exercise of basic subscription rights, holders who fully exercise their basic subscription rights will be entitled to subscribe for an additional number of Units. Over-subscription privileges will be allocated pro rata among rights holders who over-subscribed. We cannot guarantee that you will receive any or the entire number of Units for which you subscribed. If for any reason the number of Units allocated to you is less than you have subscribed for, then the excess funds held by the subscription agent on your behalf will be returned to you, without interest, as soon as practicable after the rights offering has expired and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, and we will have no further obligations to you.

If you do not exercise your subscription rights in full, your interest in Navidea may be diluted as a result of this rights offering.

If you choose not to exercise your subscription rights, you will retain your current number of shares of our common stock. If other stockholders fully exercise their subscription rights or exercise a greater proportion of their subscription rights than you exercise, the percentage of our common stock owned by these other stockholders will increase relative to your ownership percentage, and your voting and other rights in Navidea will likewise be diluted. Further, the shares issuable upon exercise of the warrants to be issued in the rights offering will dilute the ownership interest of stockholders and holders of Underwriter Warrants not participating in the rights offering or holder of warrants who have not exercised them.

We may cancel the rights offering at any time prior to the expiration of the rights offering period, and neither we nor the subscription agent will have any obligation to you except to return your subscription payment.

We may at our sole discretion cancel the rights offering at any time prior to the expiration of the rights offering period. If we elect to cancel the rights offering, neither we nor the subscription agent will have any obligation with respect to the subscription rights except to return to you, without interest or penalty, as soon as practicable any subscription payments.

This rights offering may limit our ability to use some or all of our net operating loss carryforwards in the future.

As of December 31, 2021, we had approximately \$164 million of U.S. federal net operating loss carryforwards (NOLs) and approximately \$9.1 million of R&D tax credits that could be available to offset our future federal taxable income. Our ability to utilize NOLs and R&D tax credits to offset our future taxable income would be significantly limited if we were to undergo an “ownership change” within the meaning of Section 382 of the Code. In general, an “ownership change” occurs whenever the percentage of the stock of a corporation owned by “5-percent stockholders” (within the meaning of Section 382 of the Code) increases by more than 50 percentage points over the lowest percentage of the stock of such corporation owned by such “5-percent stockholders” at any time over the testing period. Further, individuals purchasing in the rights offering will likely be aggregated together to constitute a group for Section 382 purposes to count toward an ownership change. An ownership change under Section 382 of the Code would establish an annual limitation which may significantly limit the amount of NOLs and credits we could utilize to offset our taxable income in any single year. Limitations imposed on our ability to utilize NOLs could cause U.S. federal income taxes to be paid earlier than would be paid if such limitations were not in effect. It is possible that the issuance of shares pursuant to exercised rights under this rights offering will cause an ownership change. Also, even if this rights offering does not cause an ownership change, it could increase the likelihood that we may undergo an ownership change for purposes of Section 382 of the Code in the future.

On April 7, 2022, we adopted an NOL rights plan. To ensure compliance with the NOL rights plan, we have reserved the right, in our sole discretion, to limit the number of Units any person (or group) may purchase pursuant to the exercise of basic or over-subscription privileges in the rights offering, where such purchase, when aggregated with their existing ownership, would result in such person (or group), together with any related persons or entities, owning 4.99% or more of our outstanding common stock following the closing of the rights offering unless such person has obtained a prior waiver from our board of directors to acquire, own or control such shares of common stock. Nonetheless, in order to raise the maximum amount of proceeds in this rights offering, our board of directors may grant a waiver to one or more existing or new stockholders beneficially owning 5% or more of our outstanding common stock as a result of their participation in the rights offering.

If you do not act promptly and follow the subscription instructions, your exercise of subscription rights may be rejected.

Rights holders that desire to purchase shares in the rights offering must act promptly to ensure that all required forms and payments are actually received by the subscription agent prior to the expiration date of the rights offering. If you are a beneficial owner of our common stock, Series D preferred stock or Series F preferred stock, you must act promptly to ensure that your broker, dealer, custodian bank or other nominee acts for you and that all required forms and payments are actually received by the subscription agent prior to the expiration of the rights offering period. We are not responsible if your broker, dealer, custodian bank or nominee fails to ensure that all required forms and payments are actually received by the subscription agent prior to the expiration of the rights offering period. If you fail to complete and sign the required subscription forms, send an incorrect payment amount or otherwise fail to follow the subscription procedures that apply to your exercise in the rights offering prior to the expiration of the rights offering period, the subscription agent may, depending on the circumstances, reject your subscription or accept it only to the extent of the payment received. Neither we nor the subscription agent undertakes to contact you concerning, or attempt to correct, an incomplete or incorrect subscription form. We have the sole discretion to determine whether the exercise of your subscription rights properly and timely follows the subscription procedures.

If you make payment of the subscription price by uncertified personal check, your check may not clear in sufficient time to enable you to purchase shares in the rights offering.

Any uncertified personal check used to pay the subscription price in the rights offering must clear prior to the expiration date of the rights offering, and the clearing process may require five or more business days. As a result, if you choose to use an uncertified personal check to pay the subscription price, it may not clear prior to the expiration date, in which event you would not be eligible to exercise your subscription rights. You may eliminate this risk by paying the subscription price by cashier's check, certified check or bank draft drawn on a U.S. bank.

Completion of the rights offering is not subject to us raising a minimum offering amount.

Completion of the rights offering is not subject to us raising a minimum aggregate offering amount. John K. Scott, Jr., the beneficial owner of approximately 31.5% of our outstanding common stock as of the Record Date, has not made any formal binding commitment to exercise his subscription rights, and we do not have formal commitments from any other stockholders for the amount we seek to raise pursuant to the rights offering. In addition, the total amount of cash proceeds we raise in this rights offering may be reduced to the extent certain holders of our subscription rights pay the subscription price for Units by cancelling or exchanging their shares of Series D preferred stock, Series F preferred stock and Series G preferred stock and our indebtedness evidenced by the Term Note. As a result, we cannot assure you of the amount of proceeds that we will receive in the rights offering. We may not raise the desired amount of capital in the rights offering to meet our objectives, thereby increasing the risk to investors in this rights offering, including investing in a company that continues to require capital.

The receipt of subscription rights may be treated as a taxable dividend to you.

The U.S. federal income tax consequences of the rights offering to stockholders will depend on whether the rights offering is part of a “disproportionate distribution.” We intend to take the reporting position that the subscription rights issued to common stockholders pursuant to the rights offering (a) are not part of a “disproportionate distribution” and (b) will not be a taxable distribution with respect to your existing securities. The disproportionate distribution rules are complicated, however, and their application is uncertain, and thus we are not obtaining a definitive opinion from tax counsel regarding the application of such rules. Accordingly, it is possible that the IRS could successfully challenge our reporting position and assert that the rights offering is a taxable distribution. For a discussion of the tax consequences if this distribution is non-taxable and the tax consequences if it is taxable, see the discussion in “Material U.S. Federal Income Tax Consequences.”

The subscription rights and Units are non-transferable and thus there will be no market for them.

You may not sell, transfer or assign your subscription rights or Units to anyone else. We do not intend to list the subscription rights on any securities exchange or any other trading market. Because the subscription rights are non-transferable, there is no market or other means for you to directly realize any value associated with the subscription rights.

There is no public market for the Series I preferred stock included in the Units.

There is no established public trading market for the Series I preferred stock, and we do not expect a market to develop. In addition, we do not currently intend to apply for listing of the Series I preferred stock on any securities exchange or recognized trading system. Purchasers of the Series I preferred stock may be unable to resell their shares of Series I preferred stock or sell them only at an unfavorable price for an extended period of time, if at all.

Absence of a public trading market for the warrants included in the Units may limit your ability to resell the warrants.

There is no established trading market for the warrants, and we do not expect a market to develop. We do not intend to list the warrants for trading on NYSE American or any other securities exchange or market. Without an active market, we cannot assure you that you will be able to sell or otherwise transfer the warrants and you may not realize any value from the warrants by attempting to sell or otherwise transfer them for consideration.

The market price of our common stock may never exceed the exercise price of the warrants.

The warrants being issued in connection with this rights offering become exercisable upon issuance and will expire five years from the date of issuance. The market price of our common stock may never exceed the exercise price of the warrants prior to their date of expiration. Any warrants not exercised by their date of expiration will expire for no value and we will be under no further obligation to the warrant holder.

We may call the warrants for redemption in certain circumstances.

We may call the warrants for redemption, in whole and not in part, at a price of \$0.01 per underlying share of common stock at any time 1 year after the issuance date, if, among other conditions, the volume weighted average price of our common stock for each of ten consecutive trading days exceeds \$2.40. If we give notice of redemption, you will be forced to sell or exercise your warrants or accept the redemption price. Furthermore, the exercise price must be paid in cash at the time of exercise (to the extent the “cashless” exercise provision for the warrants is not applicable). The notice of redemption could come at a time when it is not advisable or possible for you to exercise the warrants. As a result, you would be unable to benefit from owning the warrants being redeemed. A notice of redemption may also result in our common stock becoming more volatile and being subject to greater selling pressure which could result in declines in the market price for our common stock.

We will have considerable discretion over the use of the proceeds of the rights offering. Because our management will have broad discretion over the use of the net proceeds, you may not agree with how we use the proceeds, and we may not invest the proceeds successfully.

We have not determined the amount of net proceeds that we will apply to various corporate purposes. Our board of directors and management will have considerable discretion in the application of the net proceeds from this rights offering, and it is possible that we may allocate the proceeds differently than investors in the rights offering may desire or that we may fail to maximize the return on these proceeds. Accordingly, you will be relying on the judgment of our management with regard to the use of the proceeds from the rights offering, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the proceeds will be invested in a way that does not yield a favorable, or any, return for our company.

The dealer-manager is not underwriting, nor acting as placement agent of, the subscription rights or the securities underlying the subscription rights

Maxim Group LLC is acting as the dealer-manager for the rights offering. As provided in the dealer-manager agreement, the dealer-manager will provide marketing assistance in connection with this offering. The dealer-manager is not underwriting or placing any of the subscription rights or the shares of our Series I preferred stock or warrants being issued in this offering and is not making any recommendation with respect to such subscription rights (including with respect to the exercise or expiration of such subscription rights), Series I preferred stock or warrants. The dealer-manager will not be subject to any liability to us in rendering the services contemplated by the dealer-manager agreement except for any act of bad faith, gross negligence or willful misconduct by the dealer-manager. The rights offering may not be successful despite the services of the dealer-manager to us in this offering.

USE OF PROCEEDS

Assuming the rights offering is fully subscribed for cash, including any over-subscription privilege, we expect the net proceeds from the sale of the securities that we are offering to be approximately \$32.12 million, after deducting fees and expenses payable to the dealer-manager and other estimated offering expenses payable by us, and excluding any proceeds received upon exercise of any warrants.

If holders of our outstanding common stock, Series D preferred stock and Series F preferred stock pay the subscription price for Units by cancelling or exchanging all of their shares of Series D preferred stock, Series F preferred stock and Series G preferred stock and the entire principal balance of, plus all accrued but unpaid interest under, the Term Note, and assuming the rights offering is fully subscribed, we estimate that the net proceeds from the rights offering will be approximately \$ • million.

On April 10, 2022, pursuant to a Stock Exchange and Loan Agreement, John K. Scott, Jr., Vice Chairman of our board, agreed to make a loan to us in the principal amount of up to \$2.5 million. The outstanding balance of the loan is evidenced by the Term Note and bears interest at a rate of 8% per annum, with payments of interest only to be made over a period of two (2) years. All outstanding principal and accrued and unpaid interest under the Term Note are due and payable on the second anniversary of such agreement. As of the date hereof, the outstanding principal balance of the Term Note was \$2.5 million.

We intend to use the net proceeds from this rights offering for:

- funding our pivotal Phase 3 trial for Rheumatoid Arthritis;
- obtaining regulatory approvals;
- working capital; and
- the balance, if any, for other general corporate purposes.

We expect that the net proceeds of this rights offering, if fully subscribed, will be sufficient to allow us to complete or substantially complete the funding for our pivotal Phase 3 trial for Rheumatoid Arthritis (NAV3-33) and otherwise continue our other ongoing clinical trial programs, however, we are subject to substantial risks that could require us to obtain additional funding in order to achieve these objectives. See “Risk Factors.” If this rights offering is not fully subscribed, we will likely need substantial additional capital in the future, which could cause dilution to our existing stockholders, delay or terminate our ongoing clinical trials and restrict our operations or require us to relinquish rights, and if additional capital is not available, we may have to delay, reduce or cease operations.

Our expected use of net proceeds from this rights offering represents our current intentions based upon our present plans and business condition. The amounts and timing of our actual use of net proceeds will vary depending on numerous factors, including our ability to obtain additional financing, the relative success and cost of clinical and regulatory development programs and the amount and timing of product revenue, if any. In addition, we might decide to postpone or not pursue certain activities if, among other factors, the net proceeds from this offering and our other sources of cash are less than expected. As a result, management will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the net proceeds. Pending the uses described above, we intend to invest the net proceeds in interest-bearing investment-grade securities or deposits.

DILUTION

If you invest in our Units in this rights offering, you will experience an immediate dilution of the net tangible book value per share of our common stock. The net tangible book value of our common stock as of March 31, 2022, was approximately \$(3.0 million), or approximately \$(0.10) per share. Net tangible book value per share represents the amount of our total tangible assets, excluding goodwill and intangible assets, less total liabilities divided by the total number of shares of our common stock outstanding.

Dilution per share of common stock represents the difference between the amount paid by purchasers of Units in this offering and the net tangible book value per share of our common stock immediately following the completion of this rights offering.

After giving effect to the assumed sale of 35,000 Units in the rights offering at the subscription price of \$1,000 per Unit and assuming immediate conversion of all 35,000 shares of Series I preferred stock, after deducting our estimated offering expenses dealer-manager fees and expenses payable by us, our pro forma net tangible book value as of March 31, 2022 would have been approximately \$29.1 million or approximately \$0.38 per share. This represents an immediate increase in net tangible book value of approximately \$0.48 per share to our existing stockholders and an immediate dilution in pro forma net tangible book value of approximately \$0.37 per share to purchasers in this rights offering, as illustrated by the following table:

Subscription price per common share underlying Series I preferred stock	\$	0.75
Net tangible book value (deficit) per common share as of March 31, 2022	\$	(0.10)
Increase in net tangible book value per common share attributable to this rights offering	\$	0.48
Pro forma net tangible book value per common share as of March 31, 2022 after giving effect to this rights offering	\$	0.38
Dilution per common share to purchasers in this rights offering	\$	0.37

The discussion of dilution, and the table quantifying it, assume no exercise of any outstanding options or warrants, including the warrants exercisable into 46,666,667 shares of common stock issued during this offering, or other potentially dilutive securities. The exercise of potentially dilutive securities having an exercise price less than the offering price would increase the dilutive effect to new investors.

The foregoing discussion and table above is based on 30,357,292 shares of common stock outstanding as of March 31, 2022 and excludes the following potentially dilutive securities as of March 31, 2022:

- 422,324 shares of our common stock issuable upon the exercise of outstanding common stock purchase warrants, having a weighted-average exercise price of \$2.30 per share.
- 888,650 shares of our common stock issuable upon the exercise of outstanding stock options, having a weighted average exercise price of \$5.23 per share;
- 421,833 shares of our common stock available for future grants under our 2014 Stock Incentive Plan;
- 1,368,211 shares of our common stock issuable upon the conversion of the 22,077 shares of Series D preferred stock; and
- 2,173,913 shares of our common stock issuable upon the conversion of the 50,000 shares of Series E preferred stock.

To the extent that any of these options or warrants are exercised or the preferred shares are converted, these will cause dilution per share to the investors purchasing securities in this offering.

RIGHTS OFFERING

Subscription Rights

We are distributing to the record holders of our common stock and certain of our outstanding warrants, Series D preferred stock and Series F preferred stock, at no charge, non-transferable subscription rights to purchase Units at a subscription price per Unit equal to \$1,000. Each subscription right will entitle you to purchase one share of our Series I preferred stock and a warrant to purchase 1,333 shares of our common stock. Each holder will receive one subscription right for each whole share of our common stock owned or deemed to be owned as of the Record Date. Each subscription right entitles the rights holder to a basic subscription right and an over-subscription privilege.

Participation of Certain Holders of Warrants and Preferred Stock

The holders of the Underwriter Warrants, Series D preferred stock and Series F preferred stock have the right to participate in this rights offering. Each of such eligible holders will receive one (1) subscription right for each share of common stock that such holder's Underwriter Warrants are exercisable for and that such holder's Series D preferred stock or Series F preferred stock is convertible into. A total of 3,732,211 subscription rights will be issued to holders of the Underwriter Warrants, Series D preferred stock and Series F preferred stock.

Basic Subscription Right

Your basic subscription right will entitle you to purchase Units, each comprised of one (1) share of Series I preferred stock and a warrant to purchase 1,333 shares of our common stock, at the subscription price of \$1,000 per Unit. For example, if you owned or are deemed to own 100 shares of common stock on the Record Date, you will receive 100 subscription rights to purchase 100 shares of Series I preferred stock and warrants to purchase 133,300 shares of common stock for a total payment of \$100,000. You may exercise all or a portion of your basic subscription right or you may choose not to exercise any basic subscription right at all. If you do not exercise your basic subscription right in full, you will not be entitled to exercise your over-subscription privilege.

In addition, sufficient Units may not be available to honor your basic subscription right in full. While we are distributing one subscription right for every share of common stock owned or deemed owned on the Record Date, we are only seeking to raise \$35 million in gross proceeds in this rights offering. As a result, we would grant subscription rights to acquire 34,097,003 Units but will only accept subscriptions for 35,000 Units, based on 30,364,792 shares of common stock outstanding, 1,368,211 shares of our common stock issuable upon the conversion of the outstanding Series D preferred stock; 2,173,913 shares of our common stock issuable upon the conversion of the outstanding Series E preferred stock; and 189,000 Underwriter Warrants outstanding, in each case, as of July 15, 2022.

If exercises of the basic subscription right exceed the number of Units available in the rights offering, we will allocate the available Units pro-rata among the record holders exercising the basic subscription right in proportion to the number of shares of our common stock each of those record holders owned or were deemed to own on the Record Date, relative to the number of shares owned or deemed owned on the Record Date by all record holders exercising the basic subscription right. If this pro-rata allocation results in any record holders receiving a greater number of Units than the record holder subscribed for pursuant to the exercise of the basic subscription right, then such record holder will be allocated only that number of Units for which the record holder subscribed, and the remaining Units will be allocated among all other record holders exercising their basic subscription right on the same pro rata basis described above. The proration process will be repeated until all shares have been allocated.

If for any reason the amount of Units allocated to you is less than you have subscribed for, then the excess funds held by the subscription agent on your behalf will be returned to you, without interest, as soon as practicable after the rights offering has expired and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, and we will have no further obligations to you.

Over-Subscription Privilege

If you exercise your basic subscription right in full, you may also choose to exercise your over-subscription privilege. Subject to proration, if applicable, we will seek to honor the over-subscription privilege requests in full. If over-subscription privilege requests exceed the number of Units available, however, we will allocate the available Units pro rata among the rights holders exercising the over-subscription privilege in proportion to the number of shares of our common stock each of those rights holders owned on the Record Date, relative to the number of shares owned by all rights holders exercising the over-subscription privilege. If this pro rata allocation results in any rights holder receiving a greater number of Units than the record holder subscribed for pursuant to the exercise of the over-subscription privilege, then such rights holder will be allocated only that number of Units for which the rights holder oversubscribed, and the remaining Units will be allocated among all other rights holders exercising the over-subscription privilege on the same pro rata basis described above. The proration process will be repeated until all Units have been allocated.

The subscription agent for the rights offering will determine the over-subscription allocation based on the formula described above. To the extent the aggregate subscription payment of the actual number of unsubscribed Units available to you pursuant to the over-subscription privilege is less than the amount you actually paid in connection with the exercise of the over-subscription privilege, you will be allocated only the number of unsubscribed Units available to you, and any excess subscription payments will be returned to you, without interest or penalty, as soon as practicable after expiration of the rights offering.

We can provide no assurances that you will actually be entitled to purchase the number of Units issuable upon the exercise of your over-subscription privilege in full at the expiration of the rights offering. We will not be able to satisfy any requests for Units pursuant to the over-subscription privilege if all of our stockholders and holders of Underwriter Warrants exercise their basic subscription right in full, and we will only honor an over-subscription privilege to the extent sufficient Units are available following the exercise of basic subscription right.

Limitation on the Purchase of Units

You may only purchase the number of Units purchasable upon exercise of the basic subscription right distributed to you in the rights offering, plus the over-subscription privilege, if any. Accordingly, the number of Units that you may purchase in the rights offering is limited by the number of shares of our common stock you own or are deemed to own on the Record Date and by the extent to which other stockholders and holders of Underwriter Warrants exercise their basic subscription right and over-subscription privileges, all of which we cannot determine prior to completion of the rights offering.

In addition, in order to protect our ability to use our net operating losses and other tax benefits to offset potential future income taxes for federal income tax purposes, we reserve the right, in our sole discretion, to limit the number of Units any person or entity, together with related persons or entities, may purchase pursuant to the exercise of basic or over-subscription privileges, where such purchase, when aggregated with their existing ownership, would result in such person or entity, together with any related persons or entities, owning 4.99% or more of our issued and outstanding shares of common stock following the closing of the rights offering unless such person or entity has obtained a prior waiver from our board of directors to acquire, own or control such shares of common stock.

Subscription Price

The subscription price is \$1,000 per Unit. The subscription price does not necessarily bear any relationship to our past or expected future results of operations, cash flows, current financial condition, or any other established criteria for value.

Determination of Subscription Price

In the determining the subscription price, our board of directors considered a variety of factors including those listed below:

- the current and historical trading prices of our common stock on the NYSE American;
- a price that would increase the likelihood of participation in the rights offering;
- the value of the common stock issuable upon conversion of the Series I preferred stock being issued as a component of the Unit;
- the value of the warrant being issued as a component of the Unit;
- our need for additional capital and liquidity;
- the cost of capital from other sources; and
- comparable precedent transactions, including the percentage of shares offered, the terms of the subscription rights, the subscription price, and the discount the subscription price represented to the immediately prevailing closing prices for those offerings.

In conjunction with the review of these factors, our board of directors reviewed our history and prospects, including our past and present earnings and cash requirements, our prospects for the future, the outlook for our industry and our current financial condition. Our board of directors believes that the subscription price should be designed to provide an incentive to our current stockholders to participate in the rights offering and exercise their basic subscription right and their over-subscription privilege.

The subscription price does not necessarily bear any relationship to any established criteria for value. No valuation consultant or investment banker has opined upon the fairness or adequacy of the subscription price. You should not consider the subscription price as an indication of actual value of the company or our common stock. The market price of our common stock may decline during or after the rights offering. We cannot predict the price at which our shares of common stock will trade after the rights offering. You should obtain a current price quote for our common stock before exercising your subscription rights and make your own assessment of our business and financial condition, our prospects for the future, and the terms of this rights offering. Once made, all exercises of subscription rights are irrevocable.

Non-Transferability of Subscription Rights

The subscription rights are non-transferable (other than by operation of law) and, therefore, you may not sell, transfer, assign or give away your subscription rights to anyone. The subscription rights will not be listed for trading on any stock exchange or market.

No Recombination

The Series I preferred stock and warrants comprising the Units will separate upon the exercise of the subscription rights, and the Units will not trade as a separate security. Holders may not recombine shares of Series I preferred stock and warrants to receive a Unit.

Expiration Date; Extension

The subscription period, during which you may exercise your subscription rights, expires at 5:00 p.m. Eastern Time, on August 17, 2022, which is the expiration of the rights offering. If you do not exercise your subscription rights before that time, your subscription rights will expire and will no longer be exercisable. We will not be required to sell Units to you if the subscription agent receives your subscription rights statement or your subscription payment after that time. We have the option to extend the rights offering in our sole discretion, for a period not to exceed 45 days, although we do not presently intend to do so. We may extend the rights offering by giving oral or written notice to the subscription agent before the rights offering expires. If we elect to extend the rights offering, we will issue a press release announcing the extension no later than 9:00 a.m. Eastern Time, on the next business day after the most recently announced expiration date of the rights offering.

If you hold your common stock, Underwriter Warrants, Series D preferred stock or Series F preferred stock in the name of a broker, dealer, custodian bank or other nominee, the nominee will exercise the subscription rights on your behalf in accordance with your instructions. Please note that the nominee may establish a deadline that may be before 5:00 p.m. Eastern Time, on August 17, 2022, which is the expiration date that we have established for the rights offering.

Termination

We may terminate the rights offering at any time and for any reason prior to the completion of the rights offering. If we terminate the rights offering, we will issue a press release notifying stockholders and the public of the termination.

Return of Funds upon Completion or Termination

The subscription agent will hold funds received in payment for Units in a segregated account pending completion of the rights offering. The subscription agent will hold this money until the rights offering is completed or is terminated. You will not be able to rescind your subscription. Any excess subscription payments, including refunds resulting from will be returned to you as soon as practicable after the expiration of the rights offering, without interest or penalty. If the rights offering is terminated for any reason, all subscription payments received by the subscription agent will be returned as soon as practicable, without interest or penalty.

Methods for Exercising Subscription Rights

The exercise of subscription rights is irrevocable and may not be canceled or modified. You may exercise your subscription rights as follows:

Subscription by Record Holders

Rights holders who are registered holders of our common stock, Underwriter Warrants, Series D preferred stock or Series F preferred stock may exercise their subscription rights by properly completing and executing the subscription rights certificate and forwarding it, together with your full payment, to the subscription agent at the address given below under “Subscription Agent,” to be received before 5:00 p.m. Eastern Time, on August 17, 2022.

Subscription by Beneficial Owners

If you are a beneficial owner of our common stock, Underwriter Warrants, Series D preferred stock or Series F preferred stock that are registered in the name of a broker, dealer, custodian bank, or other nominee, you will not receive a subscription rights certificate. Instead, we will issue subscription rights to such nominee record holder. If you are not contacted by your nominee, you should promptly contact your nominee in order to subscribe for Units in the rights offering and follow the instructions provided by your nominee.

To properly exercise your over-subscription privilege, you must deliver the subscription payment related to your over-subscription privilege before the rights offering expires.

Payment Method

You must timely pay the full subscription payment, in U.S. currency, for the full number of shares of Units you wish to acquire pursuant to the exercise of subscription rights (including any exercise of the over-subscription privilege) by delivering a:

- Cashier’s check, certified check, personal check or bank draft drawn against a U.S. bank payable to “Broadridge Corporate Issuer Solutions, Inc.”; or
- Wire transfer of immediately available funds directly to the account maintained by the subscription agent.

Certain holders of our outstanding common stock, Series D preferred stock and Series F preferred stock will have the option to pay the subscription price by cancelling or exchanging their shares of Series D preferred stock, Series F preferred stock and Series G preferred stock and the outstanding principal balance of, plus all accrued but unpaid interest under, the Term Note, instead of by check or wire transfer of funds. The fair market value of the shares of Series D preferred stock, Series F preferred stock, Series G preferred stock and Term Note to be cancelled or exchanged will be determined by an independent appraisal to be obtained by us.

You should read the instruction letter accompanying the subscription rights statement carefully and strictly follow it. **Do not send subscription rights statements or payments directly to us.** We will not consider your subscription received until the subscription agent has received delivery of a properly completed and duly executed subscription rights statement and payment of the full subscription amount.

The method of delivery of subscription rights statements and payment of the subscription amount to the subscription agent will be at the risk of the holders of subscription rights. If sent by mail, we recommend that you send those statements and payments by registered mail, properly insured, with return receipt requested, or by overnight courier, and that you allow a sufficient number of days to ensure delivery to the subscription agent before the rights offering expires.

Clearance of Uncertified Personal Checks

If you are paying by uncertified personal check, please note that payment will not be deemed to have been received by the subscription agent until the check has cleared, which could take at least five (5) business days. Any personal check used to pay for Units must clear the appropriate financial institutions prior to 5:00 p.m., Eastern Time, on August 17, 2022, the expected expiration date of this rights offering, unless we, in our sole discretion, extend the period for exercising the subscription rights. Accordingly, holders that wish to pay the subscription price by means of an uncertified personal check are urged to make payment sufficiently in advance of the expiration of the rights offering to ensure such payment is received and clears by such date. If you elect to exercise your subscription rights, we urge you to consider using a certified check, cashier's check, bank draft, U.S. Postal money order, or wire transfer of funds to ensure that the subscription agent receives your funds prior to the expiration of the rights offering.

Subscription Agent and Information Agent

The subscription agent for this rights offering is Broadridge Corporate Issuer Solutions, Inc. The address to which subscription rights statements and payments should be mailed or delivered by overnight courier is provided below.

By Mail:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS Re-Organization Dept.
P.O. Box 1317
Brentwood, NY 11717-0718

By Courier:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS IWS
51 Mercedes Way
Edgewood, NY 11717

If sent by mail, we recommend that you send documents and payments by registered mail, properly insured, with return receipt requested, and that you allow a sufficient number of days to ensure delivery to the subscription agent before the rights offering expires.

If you deliver subscription documents or rights certificates in a manner different than that described in this prospectus, then we may not honor the exercise of your subscription rights.

You should direct any questions or requests for assistance concerning the method of subscribing for Units or for additional copies of this prospectus to the information agent at the following address and telephone number:

By Mail:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS Re-Organization Dept.
P.O. Box 1317
Brentwood, NY 11717-0718
(888) 789-8409

By Courier:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS IWS
51 Mercedes Way
Edgewood, NY 11717
(888) 789-8409

Missing or Incomplete Subscription Forms or Payment

If you fail to complete and sign the subscription rights certificate or otherwise fail to follow the subscription procedures that apply to the exercise of your subscription rights before the rights offering expires, the subscription agent will reject your subscription or accept it to the extent of the payment received. Neither we nor the subscription agent undertakes any responsibility or action to contact you concerning an incomplete or incorrect subscription form, nor are we under any obligation to correct such forms. We have the sole discretion to determine whether a subscription exercise properly complies with the subscription procedures.

The payment received will be applied to exercise your subscription rights to the fullest extent possible based on the amount of the payment received. Any excess subscription payments received by the subscription agent will be returned, without interest or penalty, as soon as practicable following the expiration of the rights offering.

Issuance of Series I Preferred Stock and Warrants

The shares of Series I preferred stock and warrants that are purchased in the rights offering as part of the Units will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration (DRS) account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of shares. If you hold your shares of common stock or Underwriter Warrants in the name of a custodian bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the securities you purchased in the rights offering.

No Fractional Shares

We do not intend to issue fractional shares of Series I preferred stock or fractional shares of common stock upon exercise of warrants issued in the rights offering. To the extent that rounding occurs, any excess subscription payments received by the subscription agent will be returned as soon as practicable after expiration of the rights offering, without interest or deduction. Similarly, no fractional shares of common stock will be issued in connection with the conversion of the Series I preferred stock or the exercise of a warrant. Instead, for any such fractional share that would otherwise have been issuable upon conversion of shares of Series I preferred stock, we may, at our election, pay a cash payment equal to such fraction multiplied by the conversion price or round up to the next whole share, and for any such fractional share that would have otherwise been issued upon exercise of warrants, we will round up such fraction to the next whole share.

Warrant Agent

The warrant agent for the warrants is Continental Stock Transfer & Trust Company, LLC.

Notice to Brokers and Nominees

If you are a broker, dealer, bank, or other nominee holder that holds shares of our common stock, Series D preferred stock or Series F preferred stock for the account of others on the Record Date, you should notify the beneficial owners of the shares for whom you are the nominee of the rights offering as soon as possible to learn their intentions with respect to exercising their subscription rights. If a beneficial owner of our stock so instructs, you should complete the subscription rights statement and submit it to the subscription agent with the proper subscription payment by the expiration date. You may exercise the number of subscription rights to which all beneficial owners in the aggregate otherwise would have been entitled had they been direct holders of our common stock on the Record Date, provided that you, as a nominee record holder, make a proper showing to the subscription agent by submitting the form entitled "nominee holder certification," which is provided with your rights offering materials. If you did not receive this form, you should contact the subscription agent to request a copy.

Validity of Subscriptions

We will resolve all questions regarding the validity and form of the exercise of your subscription rights, including time of receipt and eligibility to participate in the rights offering. Our determination will be final and binding. Once made, subscriptions are irrevocable; we will not accept any alternative, conditional, or contingent subscriptions. We reserve the absolute right to reject any subscriptions not properly submitted or the acceptance of which would be unlawful. You must resolve any irregularities in connection with your subscriptions before the expiration date of the rights offering, unless we waive them in our sole discretion. Neither we nor the Subscription agent is under any duty to notify you or your representative of defects in your subscriptions. A subscription will be considered accepted, subject to our right to withdraw or terminate the rights offering, only when the subscription agent receives a properly completed and duly executed subscription rights statement and any other required documents and the full subscription payment. Our interpretations of the terms and conditions of the rights offering will be final and binding.

Stockholder Rights

You will have no rights as a holder of the shares of our common stock issuable upon conversion of the Series I preferred stock issued in the rights offering until such Series I preferred stock is converted into common stock and the shares of common stock are issued in book-entry form or your account at your broker, dealer, bank, or other nominee is credited with the shares of our common stock. Holders of warrants issued in connection with the rights offering will not have rights as holders of our common stock until such warrants are exercised and the shares of common stock underlying the warrants are issued to the holder.

Foreign Stockholders

We will not mail this prospectus or any subscription rights certificates to stockholders with addresses that are outside the United States or that have an army post office or foreign post office address. The subscription agent will hold these subscription rights certificates for their account. To exercise subscription rights, our foreign stockholders must notify the subscription agent prior to 5:00 p.m. Eastern Time, on August 12, 2022, the third business day prior to the expiration date, of your exercise of subscription rights and provide evidence satisfactory to us, such as a legal opinion from local counsel, that the exercise of such subscription rights does not violate the laws of the jurisdiction in which such stockholder resides and payment by a U.S. bank in U.S. dollars before the expiration of the offer. If no notice is received by such time or the evidence presented is not satisfactory to us, the subscription rights represented thereby will expire.

No Revocation or Change

Once you submit the subscription rights certificate or have instructed your nominee of your subscription request, you are not allowed to revoke or change the exercise or request a refund of monies paid. All exercises of subscription rights are irrevocable, even if you learn information about us that you consider to be unfavorable. You should not exercise your subscription rights unless you are certain that you wish to purchase shares at the subscription price.

U.S. Federal Income Tax Treatment of Rights Distribution

For U.S. federal income tax purposes, we do not believe holders of shares of our common stock or Underwriter Warrants should recognize income or loss upon receipt or exercise of a subscription right. See “Material U.S. Federal Income Tax Consequences.”

No Recommendation to Rights Holders

Our board of directors is not making a recommendation regarding your exercise of the subscription rights. Stockholders who exercise subscription rights risk investment loss on money invested. We cannot predict the price at which our shares of common stock will trade after the Rights Offering. You should make your investment decision based on your assessment of our business and financial condition, our prospects for the future and the terms of this rights offering. Please see “Risk Factors” for a discussion of some of the risks involved in investing in our common stock.

Purchase Commitment

We have not entered into any standby purchase arrangement or similar arrangement in connection with this rights offering. John K. Scott, Jr., the beneficial owner of approximately 31.5% of our outstanding common stock as of the Record Date, has not made any formal binding commitment to exercise his subscription rights.

Shares of Our Common Stock, Series I Preferred Stock and Warrants Outstanding After the Rights Offering

Assuming no additional equity securities are issued by us prior to consummation of the rights offering, and assuming the rights offering is fully subscribed for cash, upon completion of the rights offering, we will have 30,364,792 shares of common stock outstanding, 35,000 shares of Series I preferred stock issued and outstanding, and 35,000 warrants to purchase 46,666,667 additional shares of our common stock issued and outstanding, based on 30,364,792 shares of our common stock outstanding as of July 15, 2022. The exact number of shares of Series I preferred stock and warrants that will be issued and outstanding after the rights offering will depend on the number of Units that are purchased in the rights offering. In addition to the foregoing, as of July 15, 2022, there were (i) 422,324 shares of our common stock issuable upon the exercise of outstanding common stock purchase warrants, with a weighted-average exercise price of \$2.30 per share; (ii) 726,080 shares of our common stock issuable upon the exercise of outstanding stock options, with a weighted average exercise price of \$4.52 per share; (iii) 563,953 shares of our common stock available for future grants under our 2014 Stock Incentive Plan; (iv) 1,368,211 shares of our common stock issuable upon the conversion of outstanding Series D preferred stock; and (v) 2,175,000 shares of our common stock issuable upon the conversion of outstanding Series F preferred stock.

Fees and Expenses

Neither we, nor the subscription agent, will charge a brokerage commission or a fee to subscription rights holders for exercising their rights. However, if you exercise your subscription rights through a custodian bank, broker, dealer or nominee, you will be responsible for any fees charged by your custodian bank, broker, dealer or nominee.

Listing

The subscription rights may not be sold, transferred, assigned or given away to anyone, and will not be listed for trading on any stock exchange or market. There is no established public trading market for the Series I preferred stock or warrants and we do not expect one to develop. In addition, we do not intend to apply for listing of the Series I preferred stock or warrants on any securities exchange or recognized trading system. The shares of our common stock are currently traded on the NYSE American under the symbol “NAVB”.

Other Matters

We are not making the rights offering in any state or other jurisdiction in which it is unlawful to do so, nor are we distributing or accepting any offers to purchase any shares of our common stock from subscription rights holders who are residents of those states or other jurisdictions or who are otherwise prohibited by federal or state laws or regulations from accepting or exercising the subscription rights. We may delay the commencement of the rights offering in those states or other jurisdictions, or change the terms of the rights offering, in whole or in part, in order to comply with the securities laws or other legal requirements of those states or other jurisdictions. Subject to state securities laws and regulations, we also have the discretion to delay allocation and distribution of any shares you may elect to purchase by exercise of your subscription rights in order to comply with state securities laws. We may decline to make modifications to the terms of the rights offering requested by those states or other jurisdictions, in which case, if you are a resident in those states or jurisdictions or if you are otherwise prohibited by federal or state laws or regulations from accepting or exercising the subscription rights, you will not be eligible to participate in the rights offering.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

The following is a summary of the material U.S. federal income tax consequences of the receipt, exercise and expiration of the subscription rights, the ownership and disposition of shares of our Series I preferred stock and warrants received upon exercise of the subscription rights, and the ownership and disposition of our common stock acquired upon exercise of our warrants or conversion of our Series I preferred stock. This summary is based upon the provisions of the Code, Treasury Regulations promulgated thereunder, administrative rulings and judicial decisions, all as of the date hereof and all of which are subject to change or to different interpretation, possibly with retroactive effect, so as to result in U.S. federal income tax consequences different from those set forth below. We have not sought and will not seek any ruling from the Internal Revenue Service ("IRS") with respect to the statements made and the conclusions reached in the following summary, and there can be no assurances that the IRS or a court will agree with such statements and conclusions.

This summary does not purport to be a complete analysis of all the potential tax considerations relating to the subscription rights. In addition, this summary does not address the tax considerations arising under U.S. federal non-income tax laws, such as gift, estate or Medicare contribution tax laws, or state, local or non-U.S. tax laws. This discussion does not address all tax considerations that may be applicable to a holder's particular circumstances or to a holder that may be subject to special tax rules, including, without limitation:

- banks, insurance companies and other financial institutions;
- tax-exempt entities, tax-exempt or government organizations;
- brokers or dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than 5% of our capital stock;
- certain U.S. expatriates, citizens or former long-term residents of the United States;
- U.S. Persons whose "functional currency" is not the U.S. dollar;
- persons who hold any subscription right as a position in a hedging transaction, "straddle," "conversion transaction," constructive sale, synthetic security, other integrated investment or other risk reduction transaction;
- persons who do not hold our common stock as a capital asset within the meaning of Section 1221 of the Code (generally, for investment purposes);
- persons deemed to sell any subscription right or share of common stock under the constructive sale provisions of the Code;
- pension plans;
- foreign or domestic partnerships, or other entities or arrangements treated as partnerships for U.S. federal income tax purposes, or investors in such entities;
- real estate investment trusts or regulated investment companies;
- personal holding companies or grantor trusts;
- persons for whom our stock constitutes "qualified small business stock" within the meaning of Section 1202 of the Code;
- foreign sovereigns;
- controlled foreign corporations;
- passive foreign investment companies and corporations that accumulate earnings to avoid U.S. federal income tax; and
- persons that acquire any subscription right as compensation for services.

If a partnership, including any entity or arrangement classified as a partnership for U.S. federal income tax purposes, holds any subscription right, the tax treatment of a partner will generally depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships that hold any subscription right, and partners in such partnerships, should consult their tax advisors regarding the U.S. federal income tax consequences to them of the receipt, exercise and expiration of the subscription rights and the ownership and disposition of our Series I preferred stock acquired upon exercise of the subscription rights.

You are urged to consult your tax advisor with respect to the application of the U.S. federal income tax laws to your particular situation, as well as any tax consequences arising under the U.S. federal estate or gift tax rules or under the laws of any U.S. state or local or any non-U.S. or other taxing jurisdiction or under any applicable tax treaty.

For purposes of this discussion, a “U.S. Person” means a beneficial owner of any subscription right that is:

- An individual who is a citizen or resident of the United States;
- A corporation (or entity treated as a corporation for U.S. federal income tax purposes) created or organized, or treated as created or organized, in or under the laws of the United States, any state thereof or the District of Columbia;
- An estate whose income is subject to U.S. federal income tax regardless of its source; or
- A trust (i) if a U.S. court can exercise primary supervision over the trust’s administration and one or more U.S. Persons are authorized to control all substantial decisions of the trust, or (ii) that has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. Person.

EACH HOLDER OF SHARES OF OUR STOCK IS STRONGLY URGED TO CONSULT SUCH HOLDER’S OWN TAX ADVISORS REGARDING THE SPECIFIC FEDERAL, STATE, LOCAL AND NON-U.S. INCOME AND OTHER TAX CONSIDERATIONS OF THE RECEIPT AND EXERCISE OF THE SUBSCRIPTION RIGHTS AND THE OWNERSHIP AND DISPOSITION OF OUR SERIES I PREFERRED STOCK ACQUIRED UPON EXERCISE OF THE SUBSCRIPTION RIGHTS.

Tax Considerations Applicable to U.S. Persons

Receipt of Subscription Rights

Although the authorities governing transactions such as the rights offering are complex and do not directly address consequences of certain aspects of the rights offering or the distribution of subscription rights and the effects of the over-subscription privilege, we do not believe the receipt of subscription rights by a U.S. Person pursuant to the rights offering should be treated as a taxable distribution with respect to such U.S. Person’s existing shares of our stock for U.S. federal income tax purposes. Pursuant to Section 305(a) of the Code, in general, the receipt by a U.S. stockholder of a right to acquire stock should not be included in the taxable income of the recipient. The general rule of non-recognition in Section 305(a) of the Code is subject to certain exceptions in Section 305(b) of the Code, which include “disproportionate distributions.” A disproportionate distribution is a distribution or a series of distributions, including deemed distributions, that has the effect of the receipt of cash or other property by some stockholders or holders of debt instruments convertible into stock and an increase in the proportionate interest of other stockholders in a corporation’s assets or earnings and profits. We may have outstanding options and warrants that could cause, under certain circumstances that cannot currently be predicted (such as a failure to properly adjust the option price in connection with a stock distribution), the receipt of subscription rights pursuant to this rights offering to be part of a disproportionate distribution, as contemplated in Section 305(b) of the Code.

Our position regarding the tax-free treatment of the subscription rights distribution is not binding on the IRS or the courts. If our tax position concerning the rights offering is finally determined by the IRS or a court to be incorrect, whether on the basis that the issuance of the subscription rights is a “disproportionate distribution” described above or otherwise, the fair market value of the subscription rights will be taxable to holders of our stock as a dividend to the extent of the holder’s pro rata share of our current and accumulated earnings and profits, if any, for the taxable year in which the subscription rights are distributed. Any excess will be treated as a tax-free return of your basis in the stock up to the amount of such basis with any additional amount treated as capital gain.

The following discussion assumes the treatment of the subscription rights issuance is a non-taxable distribution with respect to a U.S. Person’s existing shares of our stock for U.S. federal income tax purposes.

Tax Basis in the Subscription Rights

If the fair market value of the subscription rights a U.S. person receives is less than 15% of the fair market value of its existing shares of our stock (with respect to which the subscription rights are distributed) on the date the U.S. Person receives the subscription rights, the subscription rights will be allocated a zero dollar basis for U.S. federal income tax purposes, unless the U.S. person elects to allocate its basis in its existing shares of our stock between its existing shares of our stock and the subscription rights in proportion to the relative fair market values of the existing shares of our stock and the subscription rights, determined on the date of receipt of the subscription rights. If a U.S. Person chooses to allocate basis between its existing shares of our stock and the subscription rights, then such U.S. Person must make this election on a statement included with its timely filed tax return (including extensions) for the taxable year in which such U.S. Person receives the subscription rights. Such an election is irrevocable.

However, if the fair market value of the subscription rights received by a U.S. Person is 15% or more of the fair market value of its existing shares of our stock on the date that such U.S. Person receives the subscription rights, then such U.S. Person must allocate its basis in its existing shares of our stock between those shares and the subscription rights received by the U.S. Person in proportion to their fair market values determined on the date the U.S. Person receives the subscription rights.

The fair market value of the subscription rights on the date that the subscription rights are distributed is uncertain, and we have not obtained, and do not intend to obtain, an appraisal of the fair market value of the subscription rights on that date. In determining the fair market value of the subscription rights, you should consider all relevant facts and circumstances, including any difference between the subscription price of the subscription rights and the trading price of our shares of stock on the date that the subscription rights are distributed, the length of the period during which the subscription rights may be exercised and the fact that the subscription rights are non-transferable.

Holders of shares of our stock should consult with their own tax advisors regarding their tax basis in shares of our stock and subscription rights received.

Exercise of Subscription Rights

Generally, a U.S. Person will not recognize gain or loss upon the exercise of a subscription right acquired in the rights offering. A U.S. holder's adjusted tax basis, if any, in the subscription right plus the subscription price should be allocated between the share of Series I preferred stock and the warrant acquired upon exercise of the subscription right. The tax basis in the stock upon which the subscription rights were issued which is allocated to the subscription rights under the prior paragraph should be further allocated between the share of Series I preferred stock and the warrant acquired upon exercise of the subscription right in proportion to their relative fair market values on the date the subscription rights were distributed. The subscription price should be allocated between the share of Series I preferred stock and the warrant acquired upon exercise of the subscription right in proportion to their relative fair market values on the exercise date. These allocations will establish the U.S. holder's initial tax basis for U.S. federal income tax purposes in the shares of Series I preferred stock and warrants received upon exercise of such U.S. holder's subscription right. The holding period of a share of Series I preferred stock or a warrant acquired upon exercise of a subscription right in the rights offering will begin on the date of exercise.

If, at the time of the receipt or exercise of the subscription right, the U.S. holder no longer holds the stock with respect to which the subscription right was distributed, then certain aspects of the tax treatment of the receipt and exercise of the subscription right are unclear, including (1) the allocation of the tax basis between the shares of our stock previously sold and the subscription right, (2) the impact of such allocation on the amount and timing of gain or loss recognized with respect to the shares of our stock previously sold, and (3) the impact of such allocation on the tax basis of the shares of our Series I preferred stock and warrants acquired upon exercise of the subscription right. If a U.S. holder exercises a subscription right received in the rights offering after disposing of shares of our stock with respect to which the subscription right is received, the U.S. holder should consult its own tax advisor.

Expiration of Subscription Rights

If the receipt of the subscription rights by a U.S. Person is not taxable and such U.S. Person allows subscription rights received in the rights offering to expire, then such U.S. Person should not recognize any gain or loss for U.S. federal income tax purposes. In such case, the U.S. Person should re-allocate any portion of the tax basis in its existing stock previously allocated to the subscription rights that have expired to the existing stock.

Distributions on Preferred Stock

Distributions with respect to shares of our Series I preferred stock acquired upon exercise of subscription rights will be taxable as dividend income when actually or constructively received to the extent of our current or accumulated earnings and profits as determined for U.S. federal income tax purpose.

Dividend income received by certain non-corporate holders with respect to shares of our Series I preferred stock generally will be "qualified dividends" subject to preferential rates of U.S. federal income tax, provided that the U.S. holder meets applicable holding period and other requirements. Subject to similar exceptions for short-term and hedged positions, dividend income on our shares of Series I preferred stock paid to holders that are domestic corporations generally will qualify for the dividends-received deduction. To the extent that the amount of a distribution exceeds our current and accumulated earnings and profits, such distribution will be treated first as a tax-free return of capital to the extent of your adjusted tax basis in such shares of our Series I preferred stock and thereafter as capital gain.

Distributions on Common Stock

Distributions with respect to shares of our common stock acquired upon exercise of the warrants will be taxable as dividend income when actually or constructively received to the extent of our current or accumulated earnings and profits as determined for U.S. federal income tax purpose.

Dividend income received by certain non-corporate holders with respect to shares of our common stock generally will be "qualified dividends" subject to preferential rates of U.S. federal income tax, provided that the U.S. holder meets applicable holding period and other requirements. Subject to similar exceptions for short-term and hedged positions, dividend income on our shares of common stock paid to holders that are domestic corporations generally will qualify for the dividends-received deduction. To the extent that the amount of a distribution exceeds our current and accumulated earnings and profits, such distribution will be treated first as a tax-free return of capital to the extent of your adjusted tax basis in such shares of our common stock and thereafter as capital gain.

Disposition of Common Stock

A U.S. holder that sells or otherwise disposes of shares of common stock in a taxable transaction will generally recognize capital gain or loss equal to the difference between the amount realized and such U.S. holder's adjusted tax basis in the shares. Such capital gain or loss will be long-term capital gain or loss if a U.S. holder's holding period for such shares is more than one year at the time of disposition. Long-term capital gain of a non-corporate holder is generally taxed at preferential rates. The deductibility of capital losses is subject to limitations.

Disposition of Preferred Stock

Upon a sale, exchange, or other taxable disposition of our Series I preferred stock (other than by conversion), a U.S. holder generally will recognize capital gain or loss equal to the difference between the amount realized (not including any amount attributable to declared and unpaid dividends, which will be taxable as described above to U.S. holders of record who have not previously included such dividends in income) and the U.S. holder's adjusted tax basis in our Series I preferred stock. The U.S. holder's adjusted tax basis in our Series I preferred stock generally will equal its initial tax basis (discussed above under "—Exercise of Subscription Rights"), as adjusted for applicable distributions (including constructive dividends). Such capital gain or loss generally will be long-term capital gain or loss if the U.S. holder's holding period for our Series I preferred stock exceeded one year at the time of disposition. The deductibility of capital losses is subject to limitations.

Conversion of Our Preferred Stock into Our Common Stock

A U.S. holder will not recognize any gain or loss in respect of the receipt of our common stock upon the conversion of our preferred stock (except to the extent the U.S. holder receives a cash payment for any fractional share that would otherwise have been issuable upon conversion of the preferred stock). The adjusted tax basis of our common stock that a U.S. holder receives on conversion will equal the adjusted tax basis of the preferred stock converted (decreased by the adjusted tax basis allocable to any fractional share that would otherwise have been issuable upon conversion of the preferred stock), and the holding period of such common stock received on conversion will include the period during which the U.S. holder held the preferred stock prior to conversion.

In the event a U.S. holder's preferred stock is converted pursuant to an election by such U.S. holder in the case of certain acquisitions or fundamental changes or pursuant to certain other transactions (including our consolidation or merger into another person), the tax treatment of such a conversion will depend upon the facts underlying the particular transaction triggering such a conversion. In this regard, it is possible that any related adjustments of the conversion rate would be treated as a constructive distribution to the U.S. holder as described below under "—Constructive Dividends on Preferred Stock." U.S. holders should consult their own tax advisors to determine the specific tax treatment of a conversion under such circumstances.

Constructive Dividends on Preferred Stock

The conversion rate of our preferred stock is subject to adjustment under certain circumstances. Section 305(c) of the Code and U.S. Treasury Regulations thereunder may treat a U.S. holder of our preferred stock as having received a constructive distribution includable in such U.S. holder's income in the manner as described above under "—Distributions on Preferred Stock," if and to the extent that certain adjustments in the conversion rate (or failures to make such an adjustment) increase the proportionate interest of such U.S. holder in our earnings and profits. In certain other circumstances, an adjustment to the conversion rate of our preferred stock or a failure to make such an adjustment could potentially give rise to constructive distributions to U.S. holders of our common stock. Thus, under certain circumstances, U.S. holders may recognize income in the event of a constructive distribution even though they may not receive any cash or property.

Disposition, Exercise or Expiration of Warrants

Upon the sale or other taxable disposition of a warrant (other than by exercise) received upon exercise of a subscription right, a U.S. holder will generally recognize capital gain or loss equal to the difference between the amount realized on the sale or other taxable disposition and the U.S. holder's adjusted tax basis in the warrant. A U.S. holder's adjusted tax basis in a warrant will generally equal its initial tax basis (discussed above under "—Exercise of Subscription Rights"), as adjusted for any constructive dividends on the warrant described below. This capital gain or loss will be long-term capital gain or loss if the U.S. holder's holding period in such warrant is more than one year at the time of the sale or other taxable disposition. The deductibility of capital losses is subject to certain limitations.

A U.S. holder will not be required to recognize income, gain or loss upon exercise of a warrant received upon exercise of a subscription right. A U.S. holder's tax basis in a share of our common stock received upon exercise of the warrants for cash will be equal to the sum of (1) the U.S. holder's tax basis in the warrants exchanged therefor and (2) the exercise price of such warrants. A U.S. holder's holding period in the shares of our common stock received upon exercise will commence on the day after such U.S. holder exercises the warrants.

In certain circumstances, the warrants will be exercisable on a cashless basis. The U.S. federal income tax treatment of an exercise of a warrant on a cashless basis is not clear, and could differ from the consequences described above. It is possible that a cashless exercise could be a taxable event. U.S. holders are urged to consult their tax advisors as to the consequences of an exercise of a warrant on a cashless basis, including with respect to whether the exercise is a taxable event, and their holding period and tax basis in the common stock received.

If a warrant expires without being exercised, a U.S. holder will recognize a capital loss in an amount equal to such holder's adjusted tax basis in the warrant. Such loss will be long-term capital loss if, at the time of the expiration, the U.S. holder's holding period in such warrant is more than one year. The deductibility of capital losses is subject to certain limitations.

Constructive Dividends on Warrants

If at any time during the period in which a U.S. holder holds warrants received upon exercise of a subscription right, we were to pay a taxable dividend to our stockholders and, in accordance with the anti-dilution provisions of our warrants, the exercise price of the warrants were decreased, that decrease would be deemed to be the payment of a taxable dividend to a U.S. holder of the warrants to the extent of our earnings and profits, notwithstanding the fact that such holder will not receive a cash payment. If the exercise price is adjusted in certain other circumstances (or in certain circumstances, there is a failure to make appropriate adjustments), or there is an adjustment to the number of common shares that will be issued on exercise of the warrants, such adjustments may also result in the deemed payment of a taxable dividend to a U.S. holder. U.S. holders should consult their tax advisors regarding the proper treatment of any adjustments to the exercise price of the warrants.

Information Reporting and Backup Withholding

A U.S. Person may be subject to information reporting and backup withholding when such U.S. Person receives dividend payments (including constructive dividends) or receives proceeds from the sale or other taxable disposition of the warrant, shares of our Series I preferred stock acquired through the exercise of subscription rights or shares of our common stock acquired through the conversion of our Series I preferred stock or exercise of the warrants. Backup withholding (currently at the rate of 24%) may apply to U.S. Persons under certain circumstances if such U.S. Person (i) fails to furnish a correct social security or other taxpayer identification number, or TIN, (ii) fails to report interest or dividends properly or (iii) fails to provide a certified statement on IRS Form W-9, signed under penalty of perjury, that (A) such U.S. Person is a U.S. Person for U.S. federal income tax purposes, (B) the TIN provided is correct and (C) such U.S. Person has not been notified by the IRS that such U.S. Person is subject to backup withholding. Any amount withheld from a payment under the backup withholding rules is allowable as a credit against (and may entitle you to a refund with respect to) your U.S. federal income tax liability, provided that the required information is timely furnished to the IRS. Certain persons are exempt from information reporting and backup withholding, including corporations and certain financial institutions, provided that they demonstrate this fact, if requested. Each U.S. Person is urged to consult its own tax advisor as to your qualification for exemption from backup withholding and the procedure for obtaining such exemption.

Tax Considerations Applicable to Non-U.S. Holders

For purposes of this discussion, a “non-U.S. holder” or “is a beneficial owner of shares of our stock, warrants or subscription rights, as the case may be, that is neither a U.S. Person nor an entity treated as a partnership for U.S. federal income tax purposes.

Receipt, Exercise and Expiration of the Subscription Rights

The discussion assumes that the receipt of subscription rights will be treated as a nontaxable distribution. See “—Tax Considerations Applicable to U.S. Persons—Receipt of Subscription Rights” above. In such case, non-U.S. holders will not be subject to U.S. federal income tax (or any withholding thereof) on the receipt, exercise or expiration of the subscription rights.

Exercise of Warrants

A non-U.S. holder will not be subject to U.S. federal income tax on the cash exercise of warrants into shares of our common stock. As discussed above in “—Tax Considerations Applicable to U.S. Persons—Disposition, Exercise or Expiration of Warrants,” the U.S. federal income tax treatment of an exercise of a warrant on a cashless basis is not clear. Non-U.S. holders are urged to consult their tax advisors as to the consequences of an exercise of a warrant on a cashless basis, including with respect to whether the exercise is a taxable event, and their holding period and tax basis in the common stock received.

Constructive Dividends on Warrants

If at any time during the period in which a non-U.S. holder holds warrants we were to pay a taxable dividend to our stockholders and, in accordance with the anti-dilution provisions of the warrants, the exercise price of the warrants were decreased, that decrease would be deemed to be the payment of a taxable dividend to a non-U.S. holder to the extent of our earnings and profits, notwithstanding the fact that such holder will not receive a cash payment. If the exercise price is adjusted in certain other circumstances (or in certain circumstances, there is a failure to make appropriate adjustments), or there is an adjustment to the number of common shares that will be issued on exercise of the warrants, such adjustments may also result in the deemed payment of a taxable dividend to a non-U.S. holder. Any resulting withholding tax attributable to deemed dividends may be collected from other amounts payable or distributable to the non-U.S. holder. Non-U.S. holders should consult their tax advisors regarding the proper treatment of any adjustments to the warrants.

Distributions on Preferred Stock and Common Stock

If we make distributions of cash or property on our preferred stock or common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a non-U.S. holder’s adjusted tax basis in its preferred stock or common stock, as the case may be, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our preferred stock, warrants, or common stock. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of the withholding rules discussed below we or the applicable withholding agent may treat the entire distribution as a dividend.

Subject to the discussion below on backup withholding and foreign accounts, dividends paid to a non-U.S. holder of our preferred stock or common stock that are not effectively connected with the non-U.S. holder’s conduct of a trade or business within the United States will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty).

Non-U.S. holders will be entitled to a reduction in or an exemption from withholding on dividends as a result of either (1) an applicable income tax treaty or (2) the non-U.S. holder holding our preferred stock or common stock in connection with the conduct of a trade or business within the United States and dividends being effectively connected with that trade or business. To claim such a reduction in or exemption from withholding, the non-U.S. holder must provide the applicable withholding agent with a properly executed (a) IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) claiming an exemption from or reduction of the withholding tax under the benefit of an income tax treaty between the United States and the country in which the non-U.S. holder resides or is established, or (b) IRS Form W-8ECI stating that the dividends are not subject to withholding tax because they are effectively connected with the conduct by the non-U.S. holder of a trade or business within the United States, as may be applicable. These certifications must be provided to the applicable withholding agent prior to the payment of dividends and must be updated periodically. Non-U.S. holders that do not timely provide the applicable withholding agent with the required certification, but that qualify for a reduced rate under an applicable income tax treaty, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If dividends paid to a non-U.S. holder are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such dividends are attributable), then, although exempt from U.S. federal withholding tax (provided the non-U.S. holder provides appropriate certification, as described above, and subject to the discussion below on backup withholding and foreign accounts), the non-U.S. holder will be subject to U.S. federal income tax on such dividends on a net income basis at the regular graduated U.S. federal income tax rates. In addition, a non-U.S. holder that is a corporation may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on its effectively connected earnings and profits for the taxable year that are attributable to such dividends, as adjusted for certain items. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

Sale or Other Disposition of Preferred Stock, Warrants or Common Stock

Subject to the discussions below on backup withholding and foreign accounts, a non-U.S. holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our preferred stock, warrants or common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such gain is attributable);
- the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our preferred stock, warrants or common stock constitutes a U.S. real property interest, or USRPI, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

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

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

With respect to the third bullet point above, we believe we are not currently and do not anticipate becoming a USRPHC. Because the determination of whether we are a USRPHC depends on the fair market value of our USRPIs relative to the fair market value of our other business assets and our non-U.S. real property interests, however, there can be no assurance we are not a USRPHC or will not become one in the future.

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

Conversion of Our Preferred Stock into Our Common Stock

A non-U.S. holder will not recognize any gain or loss in respect of the receipt of our common stock upon the conversion of our preferred stock (except to the extent the non-U.S. holder receives a cash payment for any fractional share that would otherwise have been issuable upon conversion of the preferred stock).

Constructive Dividends on Preferred Stock

As described above under “—Tax Considerations Applicable to U.S. Persons—Constructive Dividends on Preferred Stock,” in certain circumstances, a non-U.S. holder will be deemed to receive a constructive distribution from us. Adjustments in the conversion rate (or failures to adjust the conversion rate) that increase the proportionate interest of a non-U.S. holder in our earnings and profits could result in deemed distributions to the non-U.S. holder that are treated as dividends for U.S. federal income tax purposes. Any constructive dividend deemed paid to a non-U.S. holder will be subject to U.S. federal income tax or withholding tax in the manner described above under “—Tax Considerations Applicable to Non-U.S. Holders—Distributions on Preferred Stock and Common Stock.” It is possible that U.S. federal tax on the constructive dividend would be withheld, if applicable, from subsequent payments on the preferred stock or our common stock.

Information Reporting and Backup Withholding

Subject to the discussion below on foreign accounts, a non-U.S. holder will not be subject to backup withholding with respect to distributions on our preferred stock, warrants or common stock we make to the non-U.S. holder, provided the applicable withholding agent does not have actual knowledge or reason to know such holder is a United States person and the holder timely certifies its non-U.S. status, such as by providing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or other applicable certification. However, information returns generally will be filed with the IRS in connection with any distributions (including deemed distributions) made on our preferred stock, warrants and common stock to the non-U.S. holder, regardless of whether any tax was actually withheld. Copies of these information returns may also be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides or is established.

Information reporting and backup withholding may apply to the proceeds of a sale or other taxable disposition of our preferred stock, warrants or common stock within the United States, and information reporting may (although backup withholding generally will not) apply to the proceeds of a sale or other taxable disposition of our preferred stock, warrants or common stock outside the United States conducted through certain U.S.-related financial intermediaries, in each case, unless the beneficial owner timely certifies under penalty of perjury that it is a non-U.S. holder on IRS Form W-8BEN or W-8BEN-E, or other applicable form (and the payor does not have actual knowledge or reason to know that the beneficial owner is a U.S. person) or such owner otherwise timely establishes an exemption. Proceeds of a disposition of our preferred stock, warrants or common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

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

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under the Foreign Account Tax Compliance Act, or FATCA, on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends (including deemed dividends) paid on our preferred stock, warrants or common stock, or gross proceeds from the sale or other disposition of our preferred stock, warrants or common stock paid to a “foreign financial institution” or a “non-financial foreign entity” (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any “substantial United States owners” (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain “specified United States persons” or “United States-owned foreign entities” (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable U.S. Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends (including deemed dividends) and, subject to the proposed Treasury Regulations discussed below, proceeds from sales or other dispositions of our stock or warrants. The U.S. Department of the Treasury has proposed regulations which eliminate the federal withholding tax of 30% applicable to the gross proceeds of a sale or other disposition of our securities. Withholding agents may rely on the proposed Treasury Regulations until final regulations are issued. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of these withholding rules we or the applicable withholding agent may treat the entire distribution as a dividend. Prospective investors should consult their tax advisors regarding the potential application of these withholding provisions.

AS INDICATED ABOVE, THE FOREGOING DISCUSSION IS FOR GENERAL INFORMATION PURPOSES ONLY AND SHOULD NOT BE VIEWED AS COMPLETE OR COMPREHENSIVE TAX ADVICE. HOLDERS RECEIVING A DISTRIBUTION OF SUBSCRIPTION RIGHTS CONTEMPLATED IN THIS RIGHTS OFFERING AND HOLDERS CONSIDERING THE ACQUISITION OF OUR SERIES I PREFERRED STOCK AND WARRANTS BY EXERCISING SUCH SUBSCRIPTION RIGHTS ARE URGED TO CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE APPLICABILITY AND EFFECT OF STATE, LOCAL AND NON-U.S. LAWS TO THEM.

DESCRIPTION OF CAPITAL STOCK

The following summary of the material terms of our securities is not intended to be a complete description of all of the rights and preferences of such securities. Because it is only a summary, it does not contain all of the information that may be important to you, and is qualified by reference to our amended and restated certificate of incorporation, as amended, our amended and restated bylaws, the certificates of designation establishing the terms of each series of our preferred stock (together, the “Certificates of Designation”), the Section 382 Rights Agreement and the form of common stock purchase warrant issuable in the rights offering, which are exhibits to the registration statement of which this prospectus is a part. We urge you to read each of the amended and restated certificate of incorporation, amended and restated bylaws, Certificates of Designation, the Section 382 Rights Agreement and the form of common stock purchase warrant in their entirety for a complete description of the rights and preferences of our securities.

General

Our authorized capital stock consists of 300,000,000 shares of common stock, \$0.001 par value per share, and 5,000,000 shares of preferred stock, \$0.001 par value per share.

Common Stock

Subject to the rights and preferences of any outstanding preferred stock, each share of common stock is entitled to receive, when and as declared by the board of directors, out of our available assets at such time, such dividends as may be declared from time to time by the board of directors.

If our company is liquidated, any assets that remain after the creditors are paid, and the owners of preferred stock receive any liquidation preferences, will be distributed to the owners of our common stock pro-rata. Neither the merger or consolidation by us into or with any other corporation, nor the merger or consolidation of any other corporation into or with us, nor the sale, lease, exchange or other disposition (for cash, shares of stock, securities, or other consideration) of all or substantially all our assets, will be deemed to be a dissolution, liquidation, or winding up of our business, whether voluntary or involuntary.

Each share of our common stock entitles the owner to one vote. There is no cumulative voting. Our directors are elected by a plurality of the votes of the shares present in person or represented by proxy at meetings of our stockholders and entitled to vote in the election of directors.

Our common stock does not carry any redemption rights or any preemptive rights enabling a holder to subscribe for, or receive shares of, any class of our common stock or any other securities convertible into shares of any class of our common stock.

Preferred Stock

Our certificate of incorporation authorizes our board of directors to issue “blank check” preferred stock. The board of directors may divide this stock into series and set their rights. Under the terms of our certificate of incorporation, our board of directors has the authority, without further action by our stockholders, to issue up to 5,000,000 shares of preferred stock in one or more series and to determine and alter all rights, preferences, and privileges and qualifications, limitations, and restrictions thereof (including, without limitation, voting rights and the limitation and exclusion thereof), applicable to the shares of each series. The ability of our board to issue preferred stock without stockholder approval could have the effect of delaying, deferring or preventing a change of control of us or the removal of existing management.

Series D Preferred Stock

In August 2020, a series of our preferred stock was designated as Series D Redeemable Convertible Preferred Stock (“Series D preferred stock”) consisting of 150,000 designated shares. As of July 15, 2022, 22,077 shares of Series D preferred stock were outstanding, which are convertible into 1,368,211 shares of our common stock.

Whenever our board declares a dividend on the common stock, holders of Series D preferred stock will be entitled to receive an amount equal to such dividend declared on one share of common stock multiplied by the number of shares of common stock into which the Series D preferred stock could be converted on the record date.

Holders of Series D preferred stock may convert some or all of the Series D Preferred Stock into shares (“Conversion Shares”) of common stock at a 10% discount to market, provided that we may not issue Conversion Shares in excess of 5,260,850 shares (19.99% of the number of shares of common stock outstanding as of the date of the initial call closing) without shareholder approval, which we are not required to seek.

We have the right to redeem any outstanding shares of Series D preferred stock at a price of \$110 per share, payable in cash or in registered shares of common stock.

Except with respect to transactions which may adversely affect any right, preference, privilege or voting power of the Series D preferred stock, the Series D preferred stock has no voting rights.

Series F Preferred Stock

In April 2022, a series of our preferred stock was designated as Series F Redeemable Convertible Preferred Stock (“Series F preferred stock”) consisting of 1,740 designated shares. As of July 15, 2022, 1,740 shares of Series F preferred stock were outstanding.

Holders of Series F preferred stock will be entitled to receive dividends equal to the dividend declared on one share of common stock multiplied by the number of shares of common stock into which the Series F preferred stock could be converted on the record date.

In the event of our liquidation, holders of Series F preferred stock will be entitled to receive an amount per share of Series F preferred stock calculated by taking the total amount available for distribution to holders of all outstanding common stock before deduction of any preference payments for the Series F preferred stock, divided by the total of (x) all of the then outstanding shares of common stock plus (y) all of the shares of common stock into which all of the outstanding shares of the Series F preferred stock can be converted, and then (z) multiplying the sum so obtained by the number of shares of common stock into which such share of Series F preferred stock could then be converted (the “Series F Liquidation Preference Amount”). After payment of the full Series F Liquidation Preference Amount, holders of Series F preferred stock will not be entitled to any further participation in the assets of our company.

Holders of Series F preferred stock may convert at any time some or all of the Series F preferred stock into a number of shares of common stock equal to \$1,000 divided by \$0.80, subject to the adjustment.

We have the right to redeem the Series F Preferred Stock at any time at a redemption price equal to \$1,100 per share.

The Series F preferred stock has no voting rights, other than the right to vote for any amendment, waiver or repeal of any of the powers, designations, preferences and rights of the Series F preferred stock.

Series G Preferred Stock

In April 2022, a series of our preferred stock was designated as Series G Redeemable Preferred Stock ("Series G preferred stock") consisting of 3,260 designated shares.

Holders of Series G preferred stock will be entitled to receive dividends commencing from July 1, 2022 at the rate of 6% per annum, compounded quarterly, of the stated value of \$1,000 per share, subject to adjustment. The Series G dividends will increase by 1% per annum every quarter to a max of 12% per annum.

In the event of our liquidation, holders of Series G preferred stock will be entitled to receive an amount equal to \$1,000 per share plus any accrued and unpaid dividends thereon (the "Series G Liquidation Preference Amount"). After payment of the full Series G Liquidation Preference Amount, holders of Series G preferred stock will not be entitled to any further participation in the assets of our company.

We have the right to redeem the Series G preferred stock at any time at a redemption price equal to the sum of the original issuance price per share and accrued and unpaid dividends.

The Series G preferred stock has no voting rights, other than the right to vote for any amendment, waiver or repeal of any of the powers, designations, preferences and rights of the Series G preferred stock.

Holders of Series G preferred stock have no conversion rights.

Series H Preferred Stock

The Series H Junior Participating Preferred Stock ("Series H preferred stock") is reserved for issuance pursuant to the Rights Agreement (defined below). Upon issuance, each share of Series H preferred stock (i) will entitle the holder thereof, when, as and if declared, to quarterly dividend payments equal to the greater of \$1.00 per share and 1,000 times the dividend declared per share of our common stock, (ii) will entitle the holder thereof to receive the greater of \$1.00 per share (plus accrued and unpaid dividends) and 1,000 times the payment made per share of our common stock upon liquidation, and (iii) will entitle the holder thereof to receive 1,000 times the amount received per share of our common stock if shares of common stock are exchanged via merger, consolidation or a similar transaction.

Holders of our Series H preferred stock have no preemptive, subscription, redemption or conversion rights.

There are currently no shares of Series H preferred stock issued and outstanding.

Description of Rights Agreement

On April 7, 2022, we entered into a Section 382 Rights Agreement (the "Rights Agreement") pursuant to which we issued the purchase rights. Pursuant to the Rights Agreement, our board of directors declared a dividend of one preferred share purchase right (a "Right") for each outstanding share of our common stock to purchase from us one one-thousandth of a share of our Series H preferred stock at a price of \$10.00 per one one-thousandth of a share of Series H preferred stock, subject to adjustment. The dividend was payable to stockholders of record on April 12, 2022.

The Rights Agreement is designed to prevent our company from facing a substantial limitation on our ability to use our Tax Benefits (as such term is defined in the Rights Agreement) to offset potential future income taxes for federal income tax purposes. Our ability to use our Tax Benefits would be substantially limited if we experience an "ownership change," as such term is defined in Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"). A company generally experiences an ownership change if the percentage of its shares of stock owned by its "5-percent shareholders," as such term is defined in Section 382 of the Code, increases by more than 50 percentage points over a rolling three-year period. The Rights Agreement is intended to reduce the likelihood of an ownership change under Section 382 of the Code by deterring any Person (as such term is defined in the Rights Agreement) or group of affiliated or associated Persons from acquiring Beneficial Ownership (as such term is defined in the Rights Agreement) of 4.99% or more of the outstanding common stock.

The following is a summary of the terms of the Rights Agreement. The summary does not purport to be complete and is qualified in its entirety by reference to the full text of the Rights Agreement.

Effectiveness. The Rights Agreement became effective on April 7, 2022 (the “Effective Date”). Upon and following the Effective Date, Rights will be issued in respect of all outstanding shares of common stock on the record date of April 12, 2022, and for all shares of common stock issued after such record date and, subject to the terms described in the Rights Agreement, prior to the earliest of the Distribution Date (as defined below), the redemption of the Rights or the expiration of the Rights as provided by the Rights Agreement.

Distribution and Transfer of Rights; Distribution Date; Rights Certificates. Subject to certain exceptions specified in the Rights Agreement, the Rights will separate from our common stock and become exercisable following the earlier of (i) 10 business days from the public announcement that a person or group of affiliated or associated persons has become an Acquiring Person (as defined below) or such earlier date on which a majority of our board becomes aware of the existence of an Acquiring Person or (ii) such date (prior to such time as any person or group of affiliated persons becomes an Acquiring Person), if any, as may be determined by action of the board, in its sole discretion, following the commencement of, or public announcement of an intention to commence, a tender or exchange offer the consummation of which would result in any person or group of affiliated or associated persons becoming an Acquiring Person (the earlier of such dates being called the “Distribution Date”). A person or group of affiliated or associated persons becomes an “Acquiring Person” upon acquiring Beneficial Ownership of 4.99% or more of the outstanding shares of common stock, except in certain situations (including a person or group of affiliated or associated persons that currently has Beneficial Ownership of the outstanding shares of common stock in excess of such thresholds unless and until such person or group becomes the Beneficial Owner of a percentage of shares of common stock outstanding that exceeds by 0.5% or more the percentage of shares of common stock outstanding that such person or group owned as of the first public announcement of the adoption of the Rights Agreement).

The Rights Agreement provides that, until the Distribution Date (or earlier redemption or expiration of the Rights), the Rights will be transferred with and only with the common stock. Until the Distribution Date (or earlier redemption or expiration of the Rights), new common stock certificates issued after the record date of April 12, 2022 upon transfer or new issuances of common stock will contain a legend incorporating the Rights Agreement by reference (and notice of such legend will be furnished to holders of book entry shares). Until the Distribution Date (or earlier redemption or expiration of the Rights), the surrender for transfer of any certificates for shares of common stock (or of any book entry shares of common stock) outstanding as of the record date of April 12, 2022, even without such legend (or notice of such legend) or a copy of the Summary of Rights, will also constitute the transfer of the Rights associated with the shares of common stock represented by such certificate (or book entry). As soon as practicable following the Distribution Date, separate certificates evidencing the Rights (“Right Certificates”) will be mailed to holders of record of the common stock as of the close of business on the Distribution Date and such separate Right Certificates alone will evidence the Rights.

The Rights are not exercisable until the Distribution Date. The Rights will expire on the earliest of (i) April 6, 2025, (ii) the effective date of the repeal of Section 382 or any successor statute if our board determines in its sole discretion that the Rights Agreement is no longer necessary or desirable for the preservation of NOLs or other tax benefits, (iii) the first day of our taxable year to which the our board determines in its sole discretion that no NOLs or other Tax Benefits may be carried forward or (iv) the day following the certification of the voting results of our 2022 annual meeting of stockholders, or any adjournment thereof, if at or before such annual meeting or adjournment thereof, a proposal to approve the Rights Agreement has not been approved by stockholders, unless the Rights are earlier redeemed or exchanged by us, in each case as described below, or upon the occurrence of certain transactions.

Exempt Persons and Transactions. The Rights Agreement includes procedures whereby our board will consider requests to exempt (a) any person or group (an “Exempt Person”) which would otherwise be an “Acquiring Person”, or (b) any transaction (an “Exempt Transaction”) resulting in the Beneficial Ownership of common stock, prior to the consummation of such transaction, from the Acquiring Person trigger, in each case as determined by our board in its sole discretion, provided that it shall only grant such an exemption if it determines in its sole discretion that such ownership would not reasonably be expected to jeopardize or endanger the availability of the NOLs or other tax benefits to our company or if it otherwise determines that the exemption is in our best interests; provided further that, (A) in the case of an Exempt Person, if our board later makes a contrary determination with respect to the effect of such person or group’s Beneficial Ownership with respect to the availability to us of our NOLs or other tax benefits, such person or group shall cease to be an Exempt Person and (B) in the case of an Exempt Person or Exempt Transaction, our board in its sole discretion may require the applicable person or group to make certain representations or undertakings, the violation or attempted violation of which will be subject to such consequences as our board may determine in its sole discretion, including that such person or group shall become an “Acquiring Person”.

Flip-In Trigger. If any person or group of affiliated or associated persons becomes an Acquiring Person, each holder of a Right (other than Rights beneficially owned by the Acquiring Person, affiliates and associates of the Acquiring Person and certain transferees thereof which will thereupon become null and void) will thereafter have the right to receive upon exercise of a Right that number of shares of common stock having a market value of two times the exercise price of the Right.

Flip-Over Trigger. If, after a person or group has become an Acquiring Person, the Company is acquired in a merger or other business combination transaction or 50% or more of its consolidated assets or earning power are sold, proper provisions will be made so that each holder of a Right (other than Rights beneficially owned by an Acquiring Person, affiliates and associates of the Acquiring Person and certain transferees thereof which will have become null and void) will thereafter have the right to receive upon the exercise of a Right that number of shares of common stock of the person with whom the Company has engaged in the foregoing transaction (or its parent) that at the time of such transaction have a market value of two times the exercise price of the Right.

Exchange. At any time after any person or group becomes an Acquiring Person and prior to the earlier of one of the events described in the previous paragraph or the acquisition by such Acquiring Person of 50% or more of the outstanding shares of common stock, our board may exchange the Rights (other than Rights owned by such Acquiring Person, affiliates and associates of the Acquiring Person and certain transferees thereof which will have become null and void), in whole or in part, for shares of our common stock at an exchange ratio of five shares of common stock per Right.

Redemption. At any time prior to the time any person or group becomes an Acquiring Person, our board may redeem the Rights in whole, but not in part, at a price of \$0.001 per Right (the “Redemption Price”) payable, at our option, in cash, shares of common stock or such other form of consideration as our board shall determine in its sole discretion. The redemption of the Rights may be made effective at such time, on such basis and with such conditions as our board in its sole discretion may establish. Immediately upon any redemption of the Rights, the right to exercise the Rights will terminate and the only right of the holders of Rights will be to receive the Redemption Price.

Series I Preferred Stock Included in the Units Issuable in the Rights Offering

We will authorize the Series I preferred stock by filing a certificate of designation with the Secretary of State of Delaware. The certificate of designation may be authorized by our board without approval by our stockholders.

Dividends. Holders of Series I preferred stock will be entitled to receive dividends (on an as-if-converted-to-common-stock basis) in the same form as dividends actually paid on shares of the common stock when, as and if such dividends are paid on shares of common stock.

Liquidation Preference. Upon our liquidation, dissolution or winding-up, whether voluntary or involuntary, holders of Series I preferred stock will be entitled to receive out of our assets, whether capital or surplus, the same amount that a holder of common stock would receive if the Series I preferred stock were fully converted (disregarding for such purpose any conversion limitations under the certificate of designation) to common stock, which amounts shall be paid *pari passu* with all holders of common stock.

Redemption Rights. We are not obligated to redeem or repurchase any shares of Series I preferred stock. Shares of Series I preferred stock are not otherwise entitled to any redemption rights, or mandatory sinking fund or analogous provisions.

Voting Rights. Except as otherwise provided in the certificate of designation or as otherwise required by law, the Series I preferred stock has no voting rights.

Conversion. Each share of Series I preferred stock will be convertible at the option of the holder at any time, into the number of shares of our common stock determined by dividing the \$1,000 stated value per share of the Series I preferred stock by a conversion price of \$0.75 per share. In addition, the conversion price per share is subject to adjustment for stock dividends, distributions, subdivisions, combinations or reclassifications and for certain dilutive issuances. Subject to limited exceptions, a holder of the Series I preferred stock will not have the right to convert any portion of the Series I preferred stock to the extent that, after giving effect to the conversion, the holder, together with its affiliates, would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to its conversion. A holder of the Series I preferred stock may not increase the beneficial ownership limitation provisions of such holder's Series I preferred stock without our prior consent (which may be withheld in our sole discretion).

Fundamental Transactions. In the event we effect certain mergers, consolidations, sales of substantially all of our assets, tender or exchange offers, reclassifications or share exchanges in which our common stock is effectively converted into or exchanged for other securities, cash or property, we consummate a business combination in which another person acquires 50% of the outstanding shares of our common stock, or any person or group becomes the beneficial owner of 50% of the aggregate ordinary voting power represented by our issued and outstanding common stock, then, upon any subsequent conversion of the Series I preferred stock, the holders of the Series I preferred stock will have the right to receive any shares of the acquiring corporation or other consideration it would have been entitled to receive if it had been a holder of the number of shares of common stock then issuable upon conversion in full of the Series I preferred stock.

Anti-Dilution Adjustment. If, at any time while the Series I preferred stock is outstanding, we sell or grant (or announce any offer, sale or grant) of any shares of common stock or common stock equivalents entitling any person to acquire shares of our common stock at an effective price per share that is lower than the then conversion price (such lower price, the "Base Conversion Price"), then the conversion price will be reduced to equal the Base Conversion Price. The Base Conversion Price may not be less than \$●. In addition, no conversion price adjustment will be made in respect of the following exempt issuances (each, an "Exempt Issuance"): (i) shares of common stock or options issued to employees or directors of our company pursuant to a plan, agreement or arrangement approved by the Board; (ii) securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Certificate of Designation, provided that such securities have not been amended since the date of this Certificate of Designation to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations) or to extend the term of such securities; (iii) shares of Common Stock, options or convertible securities issued as acquisition consideration pursuant to the acquisition of another entity by the Company by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, provided that such issuances are approved by the Board and that such securities are issued as "restricted securities" (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith until the 180th day after the date of this Certificate of Designation, and provided further that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities; (iv) shares of Common Stock, options or convertible securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board, provided that such securities are issued as "restricted securities" (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith until the 180th day after the date of this Certificate of Designation, and provided that any such issuance shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities; and (v) shares of Common Stock issued in connection with the issuance of bona fide commercial bank debt or equipment lease transactions, provided that such issuances are approved by the Board and that such securities are issued as "restricted securities" (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith until the 180th day after the date of this Certificate of Designation.

Warrants Included in Units Issuable in Rights Offering

The warrants to be issued as a part of this rights offering will be separately transferable following their issuance and through their expiration five years from the date of issuance. Each Warrant will entitle the holder to purchase 1,333 shares of our common stock at an exercise price of \$0.80 per share from the date of issuance through its expiration. There is no public trading market for the warrants and we do not intend that they will be listed for trading on NYSE American or any other securities exchange or market. The common stock underlying the warrants, upon issuance, will also be traded on NYSE American under the symbol "NAVB."

All warrants that are purchased in the rights offering as part of the Units will be issued in book-entry, or uncertificated, form meaning that you will receive a DRS account statement from our transfer agent reflecting ownership of Warrants if you are a holder of record. The subscription agent will arrange for the issuance of the warrants as soon as practicable after the closing. At closing, all prorating calculations and reductions contemplated by the terms of the rights offering will have been effected and payment to us for the subscribed-for Units will have cleared. If you hold your shares of common stock in the name of a bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the warrants you purchased in the rights offering. The warrants will be issued pursuant to a warrant agent agreement by and between us and Continental Stock Transfer & Trust Company, LLC, the warrant agent.

Exercisability

Each warrant will be exercisable at any time and will expire five years from the date of issuance. The warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and payment in full for the number of shares of our common stock purchased upon such exercise, except in the case of a cashless exercise as discussed below. The number of shares of common stock issuable upon exercise of the warrants is subject to adjustment in certain circumstances, including a stock split of, stock dividend on, or a subdivision, combination or recapitalization of the common stock. If we effect a merger, consolidation, sale of substantially all of our assets, or other similar transaction, then, upon any subsequent exercise of a warrants, the warrant holder will have the right to receive any shares of the acquiring corporation or other consideration it would have been entitled to receive if it had been a holder of the number of shares of common stock then issuable upon exercise in full of the warrant.

Cashless Exercise

If at any time there is no effective registration statement registering, or the prospectus contained therein is not available for issuance of, the shares issuable upon exercise of the warrant, the holder may exercise the warrant on a cashless basis. When exercised on a cashless basis, a portion of the warrant is cancelled in payment of the purchase price payable in respect of the number of shares of our common stock purchasable upon such exercise.

Exercise Price

Each warrant represents the right to purchase 1,333 shares of common stock at an exercise price of \$0.75 per share. In addition, the exercise price per share is subject to adjustment for stock dividends, distributions, subdivisions, combinations, or reclassifications, and for certain dilutive issuances. Subject to limited exceptions, a holder of warrants will not have the right to exercise any portion of the warrant to the extent that, after giving effect to the exercise, the holder, together with its affiliates, and any other person acting as a group together with the holder or any of its affiliates, would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to its exercise. The holder may not increase the beneficial ownership limitation provisions of the warrant with our prior consent (which may be withheld in our sole discretion).

Anti-Dilution Protection

If, at any time after the initial exercise date of the warrants until the two (2) year anniversary of the initial exercise date, we sell or grant (or announce any offer to sell or grant) any shares of common stock or common stock equivalents entitling any person to acquire shares of our common stock at an effective price per share that is lower than the then exercise price (such lower price, the “Base Share Price”), then the exercise price will be reduced to equal the Base Share Price. The Base Share Price may not be less than \$●. In addition, no conversion price adjustment will be made in respect of an Exempt Issuance.

Redemption Right

We may redeem the warrants at a price of \$0.01 per underlying share of common stock at any time following the one year anniversary of issuance if the volume-weighted average price of our common stock is above \$2.40 for ten consecutive trading days, subject to certain conditions and limitations.

Fundamental Transactions

In the event of a fundamental transaction, as described in the warrants and generally including, with certain exceptions, 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 warrants will be entitled to receive upon exercise of the warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the warrants immediately prior to such fundamental transaction. Additionally, as more fully described in the warrant, in the event of certain fundamental transactions, the holders of the warrants will be entitled to receive consideration in an amount equal to the Black Scholes value of the warrants on the date of consummation of such transaction.

Transferability

Subject to applicable laws and restrictions, a holder may transfer a warrant upon surrender of the warrant to us with a completed and signed assignment in the form attached to the warrant. The transferring holder will be responsible for any tax that liability that may arise as a result of the transfer.

Rights as Stockholder

Except as set forth in the warrant, the holder of a warrant, solely in such holder’s capacity as a holder of a warrant, will not be entitled to vote, to receive dividends, or to any of the other rights of our stockholders.

Amendments and Waivers

The provisions of each warrant may be modified or amended or the provisions thereof waived with the written consent of us and the holder.

Anti-Takeover Charter Provisions and Laws

Some features of our certificate of incorporation and amended and restated bylaws and the Delaware General Corporation Law (the “DGCL”), which are further described below, may have the effect of deterring third parties from making takeover bids for control of our company or may be used to hinder or delay a takeover bid.

Limitations on Stockholder Actions

Our certificate of incorporation provides that stockholder action may only be taken at a meeting of the stockholders. Thus, an owner of a majority of the voting power could not take action to replace the board of directors, or any class of directors, without a meeting of the stockholders, nor could he amend the bylaws without presenting the amendment to a meeting of the stockholders. Furthermore, under the provisions of the certificate of incorporation and bylaws, only the board of directors has the power to call a special meeting of stockholders. Therefore, a stockholder, even one who owns a majority of the voting power, may neither replace sitting board of directors members nor amend the bylaws before the next annual meeting of stockholders.

Advance Notice Provisions

Our bylaws establish advance notice procedures for the nomination of candidates for election as directors by stockholders, as well as for other stockholder proposals to be considered at annual meetings. Generally, we must receive a notice of intent to nominate a director or raise any other matter at a stockholder meeting not less than 120 days before the first anniversary of the mailing of our proxy statement for the previous year's annual meeting. The notice must contain required information concerning the person to be nominated or the matters to be brought before the meeting and concerning the stockholder submitting the proposal.

Delaware Law

As a Delaware corporation, we are subject to Section 203 of the DGCL, which provides that a corporation may not engage in any business combination with an interested stockholder during the three years after the stockholder becomes an interested stockholder unless:

- the corporation's board of directors approved in advance either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- the interested stockholder owned at least 85 percent of the corporation's voting stock at the time the transaction commenced; or
- the business combination is approved by the corporation's board of directors and the affirmative vote of at least two-thirds of the voting stock which is not owned by the interested stockholder.

An interested stockholder is anyone who owns 15% or more of a corporation's voting stock, or who is an affiliate or associate of the corporation and was the owner of 15% or more of the corporation's voting stock at any time within the previous three years; and the affiliates and associates of any those persons. Section 203 of the DGCL makes it more difficult for an interested stockholder to implement various business combinations with our company for a three-year period, although our stockholders may vote to exclude it from the law's restrictions.

Classified Board

Our certificate of incorporation and bylaws divide our board of directors into three classes with staggered three-year terms. There are currently four directors. One class is comprised of two directors and a second and third classes are comprised on one director each. At each annual meeting of stockholders, the terms of one class of directors will expire and the newly nominated directors of that class will be elected for a term of three years. The board of directors will be able to determine the total number of directors constituting the full board of directors and the number of directors in each class, but the total number of directors may not exceed nine nor may the number of directors in any class exceed six. No reduction in the total number of directors or in the number of directors in a given class will have the effect of removing a director from office or reducing the term of any then-sitting director. Stockholders may only remove directors for cause. If the board of directors increases the number of directors in a class, it will be able to fill the vacancies created for the full remaining term of a director in that class even though the term may extend beyond the next annual meeting. The directors will also be able to fill any other vacancies for the full remaining term of the director whose death, resignation or removal caused the vacancy.

A person who has a majority of the voting power at a given meeting will not in any one year be able to replace a majority of the directors since only one class of the directors will stand for election in any one year. As a result, at least two annual meeting elections will be required to change the majority of the directors by the requisite vote of stockholders. The purpose of classifying the board of directors is to provide for a continuing body, even in the face of a person who accumulates a sufficient amount of voting power, whether by ownership or proxy or a combination, to have a majority of the voting power at a given meeting and who may seek to take control of our Company without paying a fair premium for control to all of the owners of our common stock. This will allow the board of directors time to negotiate with such a person and to protect the interests of the other stockholders who may constitute a majority of the shares not actually owned by that person. However, it may also have the effect of deterring third parties from making takeover bids for control of our Company or may be used to hinder or delay a takeover bid.

PLAN OF DISTRIBUTION

As soon as practicable after August 3, 2022, we will distribute the subscription rights, rights certificates and this prospectus to persons who were holders of our common stock, Underwriter Warrants, Series D preferred stock or Series F preferred stock at 4:00 p.m., Eastern Time, on August 3, 2022, the Record Date for the rights offering. If your stock or warrants are held in the name of a custodian bank, broker, dealer or other nominee, then you should send your subscription documents and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate, and subscription payment to the subscription agent at the address provided below. **Do not send or deliver these materials to the Company.**

By Mail:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS Re-Organization Dept.
P.O. Box 1317
Brentwood, NY 11717-0718

By Courier:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS IWS
51 Mercedes Way
Edgewood, NY 11717

If you have any questions, you should contact our information agent, Broadridge, toll free at (888) 789-8409.

Other than as described in this prospectus, we do not know of any existing agreements between any stockholder, broker, dealer, underwriter or agent relating to the sale or distribution of the underlying securities.

Maxim Group LLC will act as dealer-manager for the rights offering. The dealer-manager will provide marketing assistance and financial advice (including determining the subscription price and the structure of the rights offering) to us in connection with this offering and will solicit the exercise of subscription rights and participation in the over-subscription privilege. The dealer-manager will provide us with updated investor feedback and recommendations on pricing and structure through to the end of the subscription period. The dealer-manager is not underwriting or placing any of the subscription rights or the shares of our Series I preferred stock or warrants being issued in this offering and do not make any recommendation with respect to such subscription rights (including with respect to the exercise or expiration of such subscription rights), shares or warrants.

In connection with this rights offering, we have agreed to pay the dealer-manager a cash fee equal to 7.0% of the gross proceeds received by us directly from exercises of the subscription rights; provided that the cash fee will be 3.5% with respect to the exercise of any subscription rights by our current directors. We advanced \$25,000 (the "Advance") to Maxim Group LLC as an advance against such out-of-pocket expenses upon engagement as dealer-manager and agreed to reimburse reasonable and documented out-of-pocket expenses of the dealer-manager, included fees and expenses of outside counsel, up to \$90,000 (including the Advance). In addition, we have agreed to issue to the dealer-manager warrants to purchase a number of shares of our common stock equal to 5.0% of the aggregate number of shares of common stock sold in the rights offering, assuming conversion of all of the shares of Series I preferred stock sold in the rights offering; provided that the warrants will cover only 2.5% of the common stock sold to our current directors in the rights offering. The exercise price of the dealer-manager warrants will be \$● per share (equal to 125% of the subscription price). The dealer-manager warrants will be non-exercisable for 6 months after the closing date of the rights offering, will contain unlimited "piggy-back" registration rights and will expire five years after such date.

Upon successful completion of the rights offering, for a period of fifteen (15) months from the final closing, we will grant Maxim Group LLC the right of first refusal to act as lead managing underwriter, lead book runner or lead placement agent for any and all future public and private equity, equity-linked, debt offerings or other capital raising activity (other than the exercise by any person or entity of options, warrants or convertible securities) of the Company, or any successor to or any subsidiary of the Company, during such fifteen (15) month period.

We have also agreed to indemnify the dealer-manager and its affiliates against certain liabilities arising under the Securities Act. The dealer-manager's participation in this offering is subject to customary conditions contained in the dealer-manager agreement, including the receipt by the dealer-manager of an opinion of our counsel. The dealer-manager and its affiliates may provide to us from time to time in the future in the ordinary course of their business certain financial advisory, investment banking and other services for which they will be entitled to receive fees.

Subject to certain exceptions, we have agreed not to offer, issue, sell, contract to sell, encumber, grant any option for the sale of or otherwise dispose of any shares of common stock or other securities convertible into or exercisable or exchangeable for shares of common stock for a period of 90 days after the expiration of this rights offering.

We have not agreed to enter into any standby or other arrangement to purchase or sell any rights or any of our securities.

MANAGEMENT

Directors and Executive Officers

The following sets forth certain information about our directors and executive officers as of July 15, 2022.

Name	Age	Position
Alexander L. Cappello	66	Chair of the Board of Directors
John K. Scott, Jr.	67	Vice Chair of the Board of Directors
Amit Bhalla	48	Director
Malcolm G. Witter	68	Director
Michael S. Rosol, Ph.D.	54	Chief Medical Officer
Erika L. Eves	52	Vice President, Finance and Administration

Alexander L. Cappello has served as a director of Navidea since July 2021. Mr. Cappello has led several public and private companies over the past 48 years, including Cappello Global, LLC, a global investment bank, whose principals have transacted business in over 55 countries. He is also a director of The Cheesecake Factory Incorporated (Nasdaq), lead director of Virco Manufacturing Corporation (Nasdaq), lead director of The Agnew Companies and Caldera Medical Corp. Mr. Cappello is a director of RAND Corporation's Center for Middle East Public Policy, the Center for Global Risk and Security, and the RAND-Russia Forum. Mr. Cappello is a former Chairman of Intelligent Energy, PLC (LSE), Inter-Tel (Nasdaq), and Geothermal Resources Intl. (AMEX), and a former director of Nano Financial Holdings and California Republic Bank. He is also a former advisor to the board of Gusmer Enterprises and former trustee of University of Southern California, and trustee and chairman of the investment committee of City of Hope. Mr. Cappello received a B.S. in management and finance from the Marshall School of Business at the University of Southern California.

John K. Scott, Jr. has served as a director of Navidea since July 2021. Mr. Scott has served as the owner and manager of PCS, Inc. since 1997, where he is responsible for directing the acquisition, financing, sales and operations for land entitlement and development for privately owned condominium, apartment, hotel, single family and retail projects in California, Colorado and Texas. He has also served as the general partner of NJD, Ltd., a Texas limited partnership, since 1997 and as the managing member of Merging Interests, Inc. since 1980. Mr. Scott also has extensive experience in conducting due diligence, feasibility studies, financial analysis, cost estimates and transaction negotiations for the purchase, lease, development, marketing and sale of projects and properties. Mr. Scott earned a B.S. in agricultural economics with an emphasis on construction management and real estate from the University of Wisconsin.

Amit Bhalla has served as a director of Navidea since May 2021. Mr. Bhalla has served as the Chief Financial Officer of Infinity BiologiX, LLC since November 2020. From 2015 to 2020, he served as Senior Healthcare Analyst for Lord, Abbett & Co as well as Investment Council Member for Lord, Abbett's Healthcare Fund. Prior to that, Mr. Bhalla served in various roles including Vice President-Global Strategy & Development for Becton, Dickinson and Company, Director-Equity Research-Life Science Tools/Medical Technology for Citi, Vice President-Equity Research-Emerging Medical Technology and Analyst-Equity Research-Specialty Pharmaceuticals for Morgan Stanley, and Associate-Technical Operations/Research & Development for Johnson & Johnson's Ortho-McNeil Pharmaceutical. Mr. Bhalla received his B.S. in biology from Cornell University and his M.B.A. from Tepper School of Business at Carnegie Mellon University.

Malcolm G. Witter has served as a director of Navidea since December 2020. Mr. Witter has over 40 years of operational and investment leadership experience, serving as investment banker, Chief Financial Officer, and advisor to many companies and private organizations. From 2016 to 2021, he served as the Corporate Development Regional Manager for USI Insurance Services ("USI") where he was responsible for acquiring independent insurance agencies. From 2010 to 2016, Mr. Witter was Business Development Manager for Kibble & Prentice, Inc., a USI company. Prior to USI, Mr. Witter held roles at multiple financial institutions including Kibble & Prentice Financial, Compass Capital Fund Management, Bear, Stearns & Co., and Dean Witter Reynolds. Mr. Witter is a director of the Dean Witter Foundation and an Advisor to American Research Capital. Mr. Witter received his M.B.A. from the Stanford Graduate School of Business.

Michael S. Rosol, Ph.D., has served as Chief Medical Officer of Navidea since December 2018. Prior to joining Navidea, Dr. Rosol served as Associate Director in the Clinical and Translational Imaging Group at Novartis Institutes for BioMedical Research from November 2016 to December 2018. Before that, he held positions as Senior Director of Business Development at Elucid Bioimaging, Inc. where he drove adoption of its Computer-Aided Phenotyping applications from May 2016 to November 2016, and as Chief Scientific Officer of MediLumine, Inc. from October 2015 to May 2016. Prior to those roles, he was the Head of the Translational Imaging Group at Novartis Pharmaceuticals Group from October 2012 to March 2015. His training and experience lie in the fields of biophysics, physiology, and biological/medical imaging, and his work has focused on cardiovascular imaging, preclinical and clinical imaging instrumentation and applications, animal models of human disease, pathophysiology, biomarkers, and imaging in toxicological and clinical trials. He has also served as faculty in Radiology and Director of two academic research imaging facilities. Dr. Rosol holds a Ph.D. from Boston University School of Medicine.

Erika L. Eves has served as Vice President, Finance and Administration of Navidea since November 2020. Ms. Eves has served the Company in several roles of increasing responsibility beginning in March 1992, including Accounting Clerk, Staff Accountant, Senior Accountant, Controller and Director of Finance and Administration. In addition to directing the financial operations of the Company, she is responsible for internal and external financial reporting including all SEC filings, maintaining a system of internal controls, and managing banking and vendor relationships. Ms. Eves earned a B.S.B.A. in Accounting from The Ohio State University and is a Certified Public Accountant.

In November 2021, following the resignation of the Company's former Chief Executive Officer, Chief Operating Officer and Chief Financial Officer, Jed. A. Latkin, our board of directors established an Executive Leadership Committee to lead the Company on an interim basis while its next CEO is identified. The Executive Leadership Committee includes Michael Rosol, Ph.D., our Chief Medical Officer; Erika Eves, our Vice President of Finance and Administration; and Jeffrey Smith, our Vice President of Operations. The Executive Leadership Committee works under the guidance of a Board Oversight Committee, consisting of Alexander L. Cappello and John K. Scott, Jr.

Board Composition and Independence

Our board of directors currently consists of four members. All directors hold office until their successors have been elected and qualified or until their earlier death, resignation, disqualification or removal. We have divided the terms of office of the directors into three classes with staggered three-year terms: Class I directors include Mr. Bhalla and Mr. Cappello and their term will expire at the 2022 Annual Meeting of Stockholders; Class II directors include Mr. Scott and his term will expire at the 2023 Annual Meeting of Stockholders; and Class III directors include Mr. Witter and his term will expire at the 2024 Annual Meeting of Stockholders.

Our board of directors has adopted the definition of "independence" as described under the Sarbanes-Oxley Act of 2002, Section 301, Rule 10A-3 under the Exchange Act and Section 803A of the NYSE American Company Guide. Our board of directors has determined that Messrs. Bhalla, Cappello and Witter meet the independence requirements.

Board Committees

Compensation, Nominating and Governance Committee

The Compensation, Nominating and Governance ("CNG") Committee discharges the board's responsibilities relating to the compensation of the Company's directors, executive officers and associates, identifies and recommends to the board of directors nominees for election to the board, and assists the board in the implementation of sound corporate governance principles and practices. With respect to its compensation functions, the CNG Committee evaluates and approves executive officer compensation and reviews and makes recommendations to the board with respect to director compensation, including incentive or equity-based compensation plans; reviews and evaluates any discussion and analysis of executive officer and director compensation included in the Company's annual report or proxy statement, and prepares and approves any report on executive officer and director compensation for inclusion in the Company's annual report or proxy statement required by applicable rules and regulations; and monitors and evaluates, at the Committee's discretion, matters relating to the compensation and benefits structure of the Company and such other domestic and foreign subsidiaries or affiliates, as it deems appropriate. A copy of the CNG Committee Charter is posted on the Company's website at www.navidea.com. The members of our CNG Committee include Malcolm G. Witter (Chair), Alexander L. Cappello and John K. Scott, Jr.

Audit Committee

The Audit Committee selects our independent registered public accounting firm with whom the Audit Committee reviews the scope of audit and non-audit assignments and related fees, the accounting principles that we use in financial reporting, and the adequacy of our internal control procedures. The current members of our Audit Committee include Malcolm G. Witter (Chair), Amit Bhalla, and Alexander L. Cappello, each of whom is “independent” under Section 803A of the NYSE American Company Guide, and each of whom meets the requirements of an “audit committee financial expert” as set forth in Section 407(d)(5) of Regulation S-K promulgated by the SEC. A copy of the Amended and Restated Audit Committee Charter is posted on the Company’s website at www.navidea.com.

Board of Directors Leadership Structure and Role in Risk Oversight

Our board of directors has determined that it is generally in the best interests of the Company and its stockholders that the roles of the Chairperson of the board of directors (the “Board Chair”) and Chief Executive Officer be held by different individuals within our organization. Our Chief Executive Officer is responsible for setting the strategic direction for the Company and the day-to-day leadership and performance of the Company, while the Board Chair provides strategic guidance, presides over meetings of the full board, and acts as the lead independent director. Our board of directors believes that this structure helps facilitate the role of the independent directors in the oversight of the Company and the active participation of the independent directors in setting agendas and establishing priorities and procedures that work for the board of directors. The Board Chair also acts as a key liaison between the board of directors and management. Moreover, in addition to feedback provided during the course of meetings of the board of directors, our independent directors have executive sessions led by the Board Chair. Our Board Chair acts as a liaison between the independent directors and the Chief Executive Officer regarding any specific feedback or issues following an executive session of independent directors, provides the Chief Executive Officer with input regarding agenda items for board and committee meetings, and coordinates with the Chief Executive Officer regarding information to be provided to the independent directors in performing their duties. From time to time, particularly during periods of leadership transition, a lead independent director may be appointed until an independent Board Chair is named.

Our Chief Executive Officer and senior management are responsible for the day-to-day management of the risks we face. Our board of directors, as a whole and through its committees, has responsibility for the oversight of risk management, including general oversight of (i) the financial exposure of the Company, (ii) risk exposure as related to overall company portfolio and impact on earnings, (iii), oversight for information technology security and risk, and (iv) all systems, processes, and organizational structures and people responsible for finance and risk functions. Certain risks are overseen by committees of the board of directors and these committees make reports to the full board, including reports on noteworthy risk management issues. Financial risks are overseen by the Audit Committee which meets with management to review the Company’s major financial risk exposure and the steps management has taken to monitor and control such exposures. Compensation risks are overseen by the CNG Committee.

Members of the Company’s senior management report to the full board about their areas of responsibility, including reports regarding risk within such area of responsibility and the steps management has taken to monitor and control such exposures. Additional review or reporting of risks is conducted as needed or as requested by the board of directors or a committee.

Additionally, starting in the first quarter of 2020, our board of directors has included in their regular meetings consideration and discussion of the Company’s management during the ongoing COVID-19 pandemic, including with regard to the Company’s operations, financial position and liquidity, communications strategy, personnel management and government affairs engagement, among other items.

Compensation, Nominating and Governance Committee Interlocks and Insider Participation

None of the members of our CNG Committee during the past year was an officer or employee of the Company. None of our executive officers currently serves, or in the past year served, as a member of a compensation committee (or other committee serving an equivalent function) or director of any entity that has one or more executive officers serving on our compensation committee or our board of directors.

EXECUTIVE COMPENSATION

Summary Compensation

The following table sets forth certain information concerning the compensation of our named executive officers for the last three fiscal years.

Summary Compensation Table for Fiscal 2021

Named Executive Officer	Year	Salary	Stock Awards	(a) Option Awards	(b) Non-Equity Incentive Plan Compensation	(c) All Other Compensation	Total Compensation
Michael S. Rosol, Ph.D. (d) Chief Medical Officer (Principal Executive Officer)	2021	\$ 263,526	\$ —	\$ 133,037	\$ 63,057	\$ 9,731	\$ 469,351
	2020	223,333	—	19,118	54,710	5,409	302,570
Erika L. Eves (e) Vice President, Finance & Administration	2021	\$ 171,072	\$ —	\$ 23,481	\$ 29,614	\$ 12,563	\$ 236,730
	2020	147,325	—	4,588	21,042	5,273	178,228
Jed A. Latkin (f) Former Chief Executive Officer, Chief Operating Officer and Chief Financial Officer	2021	\$ 408,333	\$ —	\$ 187,849	\$ —	\$ 750,908	\$ 1,347,090
	2020	481,511	163,450	321,615	252,775	5,700	1,225,051
Joel H. Kaufman (g) Former Chief Business Officer	2021	\$ 81,458	\$ —	\$ 46,962	\$ —	\$ 18,845	\$ 147,265
	2020	226,042	—	39,600	55,381	7,324	328,347
Michel Mikhail, Ph.D. (h) Former Chief Regulatory Officer	2021	\$ 56,250	\$ —	\$ 81,580	\$ 15,053	\$ 167	\$ 153,050
	2020	—	—	—	—	—	—

(a) Amount represents the aggregate grant date fair value in the year granted in accordance with FASB ASC Topic 718.

(b) Amount represents the total non-equity incentive plan amounts which have been approved by the Board of Directors as of the date of this filing, and are disclosed for the year in which they were earned (i.e., the year to which the service relates).

(c) Amount represents additional compensation as disclosed in the All Other Compensation Table below.

(d) Dr. Rosol's salary for the fiscal year ended December 31, 2021 includes an additional \$26,026 for his service on the Executive Leadership Committee following Mr. Latkin's separation from the Company.

(e) Ms. Eves's salary for the fiscal year ended December 31, 2021 includes an additional \$14,872 for her service on the Executive Leadership Committee following Mr. Latkin's separation from the Company.

(f) Mr. Latkin separated from the Company effective October 24, 2021.

(g) Mr. Kaufman separated from the Company effective May 7, 2021.

(h) Dr. Mikhail commenced employment with the Company effective October 1, 2021, and separated from the Company effective April 1, 2022.

All Other Compensation

The following table describes each component of the amounts shown in the “All Other Compensation” column in the Summary Compensation Table above.

All Other Compensation Table for Fiscal 2021

Named Executive Officer	Year	Severance	(a) Unused Paid Time Off	(b) Employer Matching Contribution to 401(k) Plan	(c) Employer Contribution to Health Savings Account	Total All Other Compensation
Michael S. Rosol, Ph.D. Chief Medical Officer (Principal Executive Officer)	2021	\$ —	\$ —	\$ 8,731	\$ 1,000	\$ 9,731
	2020	—	—	4,409	1,000	5,409
Erika L. Eves Vice President, Finance & Administration	2021	\$ —	\$ —	\$ 11,563	\$ 1,000	\$ 12,563
	2020	—	—	3,315	1,958	5,273
Jed A. Latkin (d) Former Chief Executive Officer, Chief Operating Officer and Chief Financial Officer	2021	\$ 694,167	\$ 39,341	\$ 17,400	\$ —	\$ 750,908
	2020	—	—	5,700	—	5,700
Joel H. Kaufman (e) Former Chief Business Officer	2021	\$ —	\$ 11,795	\$ 6,300	\$ 750	\$ 18,845
	2020	—	—	5,324	2,000	7,324
Michel Mikhail, Ph.D. (f) Former Chief Regulatory Officer	2021	\$ —	\$ —	\$ —	\$ 167	\$ 167
	2020	—	—	—	—	—

(a) Amount represents payment for unused Paid Time Off as of the named executive officer’s date of separation from the Company.

(b) Amount represents the value of the common stock accrued for contribution to the named executive officer’s account in our 401(k) Plan as calculated on a quarterly basis.

(c) Amount represents employer contributions to the named executive officer’s Health Savings Account.

(d) Mr. Latkin separated from the Company effective October 24, 2021. Amount includes all amounts paid or accrued, including payment of Mr. Latkin’s attorney fees. Amount excludes the value of any accelerated vesting of his stock options and restricted stock units. Additional information regarding Mr. Latkin’s severance benefits is disclosed below under “Employment Agreement and Separation Agreement with Mr. Latkin.”

(e) Mr. Kaufman separated from the Company effective May 7, 2021.

(f) Dr. Mikhail commenced employment with the Company effective October 1, 2021, and separated from the Company effective April 1, 2022.

Employment Agreement and Separation Agreement with Mr. Latkin

Effective July 27, 2020 through October 24, 2021, Mr. Latkin was employed under an employment agreement that provided for an annual base salary of \$490,000. For the fiscal year ending December 31, 2021, the CNG Committee determined that the maximum bonus payment to Mr. Latkin would be \$367,500. No bonus was paid to Mr. Latkin due to his resignation prior to payment of bonuses in 2022.

On November 23, 2021, Mr. Latkin signed a Separation Agreement and General Release (the “Separation Agreement”) in connection with his resignation from those positions and as a director on October 24, 2021 (the “Separation Date”). Pursuant to the Separation Agreement, among other things, the Company agreed to provide Mr. Latkin with certain separation benefits, commencing on the “Effective Date,” defined as the eighth day after Mr. Latkin signs, without revoking, the Separation Agreement. These separation benefits include continued payment of Mr. Latkin’s base salary of \$490,000, less all relevant taxes and other withholdings, on the following basis: (i) for 12 months, 100% of his base salary, minus an aggregate \$24,000 deducted monthly pro rata, and (ii) for 10 months following the expiration of the first 12-month period, 50% of his base salary. On the Effective Date, each of Mr. Latkin’s unvested stock options vested, and all of his vested stock options (covering 69,918 shares) and previously unvested options (covering 333,332 shares) may be exercised by Mr. Latkin on or before the earlier of the fifth anniversary of the Separation Date and the original expiration date. On the Effective Date, each of Mr. Latkin’s 33,333 outstanding unvested restricted stock units became fully vested, and all of such restricted stock units were settled within thirty days after the Separation Date, less applicable withholding in shares of common stock. The Company agreed to pay Mr. Latkin’s attorney fees in the amount of \$24,000, and to reimburse expenses pursuant to Company policy. For purposes of assistance provided in certain litigation matters, the Company agreed to pay Mr. Latkin \$250 per hour, subject to certain limitations. Mr. Latkin will also be entitled to receive, subject to his timely execution and non-revocation of the Separation Agreement, a payment equal to up to one percent of total capital raised during the twenty-two months following the Separation Date through one of two investment banking firms introduced to the Company by Mr. Latkin, less relevant taxes and withholdings and subject to certain payment terms. In addition, Mr. Latkin and the Company generally released each other from any and all claims each may have against the other.

Grants of Plan-Based Awards

The following table sets forth certain information about plan-based awards that we made to the named executive officers during fiscal 2021.

Grants of Plan-Based Awards Table for Fiscal 2021

Named Executive Officer	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards		Estimated Future Payouts Under Equity Incentive Plan Awards		All Other Stock Awards: Number of Shares	All Other Option Awards: Number of Securities Underlying Options	Exercise Price of Awards	Grant Date Fair Value of Stock and Option
		Threshold	Maximum	Threshold	Maximum				
Michael S. Rosol, Ph.D.	N/A	\$ —	\$ 84,000	—	—	—	—	\$ —	\$ — (a)
	2/15/2021	—	—	—	—	—	25,000	2.56	46,962 (b)
	12/27/2021	—	—	—	—	—	100,000	1.08	86,074 (c)
Erika L. Eves	N/A	\$ —	\$ 39,050	—	—	—	—	\$ —	\$ — (a)
	2/15/2021	—	—	—	—	—	12,500	2.56	23,481 (b)
Jed A. Latkin (d)	N/A	\$ —	\$ 367,500	—	—	—	—	\$ —	\$ — (a)
	2/15/2021	—	—	—	—	—	100,000	2.56	187,849 (b)
Joel H. Kaufman (e)	N/A	\$ —	\$ 80,500	—	—	—	—	\$ —	\$ — (a)
	2/15/2021	—	—	—	—	—	25,000	2.56	46,962 (b)
Michel Mikhail, Ph.D. (f)	N/A	—	\$ 78,750	—	—	—	—	\$ —	\$ — (a)
	11/15/2021	—	—	—	—	—	75,000	1.37	81,579 (b)

- (a) The threshold amount reflects the possibility that no cash bonus awards will be payable. The maximum amount reflects the cash bonus awards payable if the Board of Directors, in its discretion, awards the maximum cash bonus. Any cash bonus awarded related to fiscal 2021 will be pro-rated based on the weighted average amount of base salary and time served during 2021.
- (b) These stock options vest as to one-third of the options on each of the first three anniversaries of the date of grant, and expire on the tenth anniversary of the date of grant.
- (c) These stock options vest as to one-fourth of the options on each of the first four anniversaries of the date of grant, and expire on the tenth anniversary of the date of grant.
- (d) Mr. Latkin separated from the Company effective October 24, 2021. In accordance with the terms of Mr. Latkin's separation agreement, all of Mr. Latkin's unvested stock options vested on December 1, 2021 and will expire on the earlier of the expiration of the original ten-year term or October 24, 2026.
- (e) Mr. Kaufman separated from the Company effective May 7, 2021. All of Mr. Kaufman's unvested stock options were forfeited on the date of separation.
- (f) Dr. Mikhail separated from the Company effective April 1, 2022. All of Dr. Mikhail's unvested stock options vested on April 1, 2022 and expired on June 30, 2022.

Outstanding Equity Awards

The following table presents certain information concerning outstanding equity awards held by the named executive officers as of December 31, 2021.

Outstanding Equity Awards Table at Fiscal 2021 Year-End

Named Executive Officer	Option Awards					Stock Awards				
	Number of Securities Underlying Unexercised Options (#)		Option Exercise Price	Option Expiration Date	Note	Number of Shares of Stock that Have Not Vested	Market Value of Shares of Stock that Have Not Vested	Equity Incentive Plan Awards		
	Exercisable	Unexercisable						Number of Unearned Shares	Market Value of Unearned Shares	Note
Michael S. Rosol, Ph.D.	6,250	—	\$ 7.60	1/2/2029	(j)					
	8,333	16,667	1.06	2/6/2030	(m)					
	—	25,000	2.56	2/15/2031	(p)					
	—	100,000	1.08	12/27/2031	(s)					
Erika L. Eves	500	—	\$ 65.60	2/17/2022	(a)					
	625	—	61.60	2/15/2023	(b)					
	625	—	35.40	1/28/2024	(c)					
	625	—	33.00	3/26/2025	(d)					
	1,000	—	10.20	4/25/2027	(g)					
	1,200	—	7.20	2/20/2028	(i)					
	1,600	800	3.00	2/7/2029	(k)					
	2,000	4,000	1.06	2/6/2030	(m)					
	—	12,500	2.56	2/15/2031	(p)					
Jed A. Latkin	2,250	—	\$ 30.00	4/20/2026	(e)					
	1,000	—	20.00	10/14/2026	(f)					
	16,667	—	13.00	10/26/2026	(h)					
	16,667	—	15.00	10/26/2026	(h)					
	16,666	—	20.00	10/26/2026	(h)					
	16,667	—	3.00	10/26/2026	(l)					
	16,667	—	6.00	10/26/2026	(l)					
	16,666	—	10.00	10/26/2026	(l)					
	100,000	—	1.06	10/26/2026	(n)					
	100,000	—	4.70	10/26/2026	(o)					
	100,000	—	2.56	10/26/2026	(q)					
Joel H. Kaufman	—	—	\$ —							
Michel Mikhail, Ph.D.	—	75,000	\$ 1.37	11/15/2031	(r)					

- (a) Options were granted February 17, 2012 and vested as to one-fourth on each of the first four anniversaries of the date of grant.
- (b) Options were granted February 15, 2013 and vested as to one-fourth on each of the first four anniversaries of the date of grant.
- (c) Options were granted January 28, 2014 and vested as to one-fourth on each of the first four anniversaries of the date of grant.
- (d) Options were granted March 26, 2015 and vested as to one-third on each of the first three anniversaries of the date of grant.
- (e) Options were granted April 20, 2016 and vested as to one-sixth on the 20th day of each of the first six months following the date of grant.
- (f) Options were granted October 14, 2016 and vested as to one-half on the 20th day of each of the first two months following the date of grant.
- (g) Options were granted April 25, 2017 and vested as to one-third on each of the first three anniversaries of the date of grant.
- (h) Options were granted May 4, 2017 and vested on December 1, 2021 in accordance with Mr. Latkin's separation agreement.
- (i) Options were granted February 20, 2018 and vested as to one-third on each of the first three anniversaries of the date of grant.
- (j) Options were granted January 2, 2019 and vested as to one-third on January 2, 2019, July 2, 2019 and January 2, 2020.
- (k) Options were granted February 7, 2019 and vest as to one-third on each of the first three anniversaries of the date of grant.
- (l) Options were granted February 7, 2019 and vested on December 1, 2021 in accordance with Mr. Latkin's separation agreement.

- (m) Options were granted February 6, 2020 and vest as to one-third on each of the first three anniversaries of the date of grant.
- (n) Options were granted February 6, 2020 and vested as to one-third on the first anniversary of the date of grant and two-thirds on December 1, 2021, in accordance with Mr. Latkin's separation agreement.
- (o) Options were granted August 14, 2020 and vested as to one-third on July 1, 2021 and two-thirds on December 1, 2021, in accordance with Mr. Latkin's separation agreement.
- (p) Options were granted February 15, 2021 and vest as to one-third on each of the first three anniversaries of the date of grant.
- (q) Options were granted February 15, 2021 and vested on December 1, 2021 in accordance with Mr. Latkin's separation agreement.
- (r) Options were granted November 15, 2021 and vested on April 1, 2022 concurrent with Dr. Mikhail's separation.
- (s) Options were granted December 27, 2021 and vest as to one-fourth on each of the first four anniversaries of the date of grant.

Options Exercised and Stock Vested

The following table presents, with respect to the named executive officers, certain information about option exercises and restricted stock vested during fiscal 2021.

Options Exercised and Stock Vested Table for Fiscal 2021

Named Executive Officer	Option Awards		Stock Awards		Note
	Number of Shares Acquired on Exercise	Value Realized on Exercise	Number of Shares Acquired on Vesting	Value Realized on Vesting	
Michael S. Rosol, Ph.D.	—	\$ —	—	\$ —	
Erika L. Eves	—	—	—	—	
Jed. A. Latkin	—	—	50,000	70,950	(a)
Joel H. Kaufman	2,000	1,140	—	—	
Michel Mikhail, Ph.D.	—	—	—	—	

- (a) On July 1, 2021, 16,667 shares of Mr. Latkin's restricted stock vested in accordance with the terms of the restricted stock award agreement. An additional 33,333 shares of restricted stock vested on December 1, 2021 in accordance with the terms of Mr. Latkin's separation agreement. Of the shares that vested on December 1, 2021, 14,115 shares were withheld to satisfy Mr. Latkin's related tax obligation. The value realized on vesting was calculated by multiplying the number shares that vested by the closing stock price on each of the vesting dates.

Compensation of Non-Employee Directors

From January 1, 2021 through November 15, 2021, each non-employee director received an annual retainer of \$50,000. The Chair of the Company's Board of Directors received an additional annual retainer of \$30,000. Audit and CNG Committee members received an annual retainer of \$2,500 for each committee on which they served. The Chair of the Audit Committee received an additional annual retainer of \$7,500, and the Chair of the CNG Committee received an additional annual retainer of \$5,000 for their services in those capacities. Of the retainers earned from April 1, 2021 through November 15, 2021, fifty percent were paid in cash and fifty percent were paid in shares of common stock of the Company, based on the closing market price of the stock at the end of each quarter. Each non-employee director also received 2,500 shares of restricted stock and 2,500 options to purchase stock at \$2.28 per share during 2021 as a part of the Company's annual stock incentive grants, in accordance with the provisions of the Navidea Biopharmaceuticals, Inc. 2014 Stock Incentive Plan. The restricted stock and stock options granted will vest on the first anniversary of the date of grant. We also reimbursed non-employee directors for travel expenses for meetings attended during 2021.

In October 2021, the Board of Directors retained the services of a compensation consultant, F.W. Cook, to evaluate the compensation of the non-employee Directors. Based on the recommendation of F.W. Cook, our board of directors has adopted a non-employee director compensation policy, beginning November 16, 2021. Under the policy, our non-employee directors are eligible to receive the following cash compensation for their services:

- an annual retainer of \$42,500 for each Board member;
- an additional annual retainer of \$50,000 for the Chair of the Board;
- an additional annual retainer of \$35,000 for the Vice Chair of the Board \$35,000;
- an annual retainer of \$10,000 for each Audit Committee member;
- an additional annual retainer of \$10,000 for the Chair of the Audit Committee;
- an annual retainer \$7,500 for each CNG Committee member;
- an additional annual retainer of \$7,500 for the Chair of the CNG Committee; and
- an additional annual retainer of \$100,000 for each member of the Board Oversight Committee.

In addition, each non-employee director also received an annual retainer of 30,000 shares of unrestricted common stock, which are payable in equal monthly issuances over 12 months, as well as 30,000 shares of restricted stock that will vest as to one-third on each of the first three anniversaries of the date of grant. The policy also provides for the reimbursement of our non-employee directors for reasonable and documented travel expenses to attend meetings of our board of directors and committees of our board of directors. Mr. Scott has elected to defer the reimbursement of any travel expenses until at least September 30, 2022.

The aggregate number of equity awards outstanding as December 31, 2021 for each Director is set forth in the footnotes to the beneficial ownership table provided in the section entitled "Principal Stockholders." Directors who are also officers or employees of Navidea do not receive any compensation for their services as directors.

The following table sets forth information concerning the compensation of non-employee Directors for the fiscal year ended December 31, 2021.

Name	Fees Earned or Paid in Cash (a)	Option Awards (b),(c)	Stock Awards (d),(e),(f)	All Other Compensation	Total Compensation
Amit Bhalla (g)	\$ 22,063	\$ 3,089	\$ 64,706	\$ —	\$ 89,858
Claudine Bruck, Ph.D. (h)	29,228	4,259	20,461	—	53,948
Alexander L. Cappello (i)	44,657	—	57,123	—	101,780
Adam D. Cutler (j)	31,250	4,259	5,698	—	41,207
Thomas F. Farb (k)	17,775	—	4,920	—	22,695
Y. Michael Rice (l)	42,500	4,259	5,698	—	52,457
S. Kathryn Rouan, Ph.D. (m)	32,390	4,259	24,936	—	61,612
John K. Scott, Jr. (n)	32,918	—	48,509	—	81,427
Agnieszka Winkler (o)	6,801	—	5,160	—	11,961
Malcolm G. Witter	41,490	4,259	68,625	—	114,374

- (a) Amount represents fees earned during the fiscal year ended December 31, 2021 (i.e., the year to which the service relates). Through the third quarter of 2021, quarterly retainers were paid during the quarter following the quarter in which they were earned. Beginning in the fourth quarter of 2021, monthly retainers are paid during the month in which they are earned. Beginning November 16, 2021, Messrs. Bhalla, Scott and Witter elected to defer receipt of fees payable in cash until at least September 30, 2022. The value of the deferred cash payments is included in this amount.
- (b) Amount represents the aggregate grant date fair value in accordance with FASB ASC Topic 718.
- (c) During the year ended December 31, 2021, the non-employee directors were awarded an aggregate of 12,500 options to purchase common stock which vest as to 100% of the shares on the first anniversary of the date of grant. As of December 31, 2021, the current non-employee directors, Bhalla and Witter, each held 2,500 options to purchase shares of common stock.
- (d) Amount represents the aggregate grant date fair value in accordance with FASB ASC Topic 718 and includes the value of stock issued or to be issued for fees earned during the fiscal year ended December 31, 2021 (i.e., the year to which the service relates). Beginning November 16, 2021, Messrs. Bhalla, Scott and Witter elected to defer receipt of fees payable in common stock until at least September 30, 2022. The value of the deferred stock payments is included in this amount.
- (e) During the year ended December 31, 2021, the non-employee directors were issued an aggregate of 105,000 shares of restricted stock, 15,000 of which vest as to 100% of the shares on the first anniversary of the date of grant, and 90,000 of which vest as to one-third on each of the first three anniversaries of the date of grant. Mr. Scott elected to defer receipt of an additional 30,000 shares of restricted stock until further notice. As of December 31, 2021, the current non-employee directors held an aggregate of 95,000 shares of unvested restricted stock, with Messrs. Bhalla and Witter each holding 32,500 shares, and Mr. Cappello holding 30,000 shares of unvested restricted stock.
- (f) During the year ended December 31, 2021, the non-employee directors were issued an aggregate of 53,819 shares of unrestricted common stock in partial payment of their fees. A total of 19,242 shares of unrestricted common stock earned during the year ended December 31, 2021 were deferred until at least September 30, 2022.
- (g) Mr. Bhalla joined the Board of Directors effective May 4, 2021.
- (h) Dr. Bruck retired from the Board of Directors effective September 14, 2021.
- (i) Mr. Cappello joined the Board of Directors effective July 8, 2021.
- (j) Mr. Cutler retired from the Board of Directors effective May 4, 2021.
- (k) Mr. Farb joined the Board of Directors effective October 7, 2021 and resigned effective December 5, 2021.
- (l) Mr. Rice retired from the Board of Directors effective May 4, 2021.
- (m) Dr. Rouan retired from the Board of Directors effective September 14, 2021.
- (n) Mr. Scott joined the Board of Directors effective July 8, 2021.
- (o) Ms. Winkler joined the Board of Directors effective October 7, 2021 and resigned effective December 5, 2021.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

We adhere to our Code of Business Conduct and Ethics, which states that no director, officer or employee of Navidea should have any personal interest that is incompatible with the loyalty and responsibility owed to our company. We adopted a written policy regarding related party transactions in December 2015. When considering whether to enter into or ratify a related party transaction, the Audit Committee considers a variety of factors including, but not limited to, the nature and type of the proposed transaction, the potential value of the proposed transaction, the impact on the actual or perceived independence of the related party and the potential value to our company of entering into such a transaction. All proposed transactions with a potential value of greater than \$120,000 must be approved or ratified by the Audit Committee.

SEC disclosure rules regarding transactions with related persons require us to provide information about transactions with directors and executive officers as related persons, even though they may not have been related persons at the time we entered into the transactions described below.

Dr. Goldberg and Platinum

Dr. Michael Goldberg, our former President and Chief Executive Officer, previously managed a portfolio of funds for Platinum-Montaur Life Sciences LLC (“Platinum-Montaur”), an affiliate of Platinum Management (NY) LLC, Platinum Partners Value Arbitrage Fund L.P. (“PPVA”), Platinum Partners Capital Opportunity Fund (“PPCO”), Platinum Partners Liquid Opportunity Master Fund L.P., Platinum Liquid Opportunity Management (NY) LLC, and Montsant Partners LLC (collectively, “Platinum”), from May 2007 until December 2013.

In March 2017, the Company repaid to PPCO an aggregate of approximately \$7.7 million in full satisfaction of the Company’s liabilities, obligations and indebtedness under the Platinum Loan Agreement between the Company and Platinum-Montaur, which were transferred by Platinum-Montaur to PPCO (the “Platinum Debt”). Subsequently, competing claims were made by Dr. Goldberg and by PPVA to the unpaid portion of the Platinum Debt. Platinum commenced litigation against the Company in November 2017. Platinum and the Company settled their dispute and Platinum’s lawsuit was dismissed in February 2022.

Goldberg Agreement and Litigation

In August 2018, Dr. Michael Goldberg resigned from his positions as an executive officer and a director of Navidea. In connection with Dr. Goldberg’s resignation, Navidea and Dr. Goldberg entered into an Agreement (the “Goldberg Agreement”) which set forth the terms of the separation from service. Among other things, the Goldberg Agreement provided that Dr. Goldberg would be entitled to 1,175,000 shares of our Common Stock, representing in part payment of accrued bonuses and payment of the balance of the Platinum debt. A portion of the 1,175,000 shares to be issued to Dr. Goldberg would be held in escrow for up to 18 months in order to reimburse Navidea in the event that Navidea is obligated to pay any portion of the Platinum debt to a party other than Dr. Goldberg. Further, the Goldberg Agreement provided that the Company’s subsidiary, Macrophage Therapeutics, Inc. (“MT”), would redeem all of Dr. Goldberg’s preferred stock and issue to Dr. Goldberg super voting common stock equal to 5% of the outstanding shares of MT. In November 2018, the Company issued 925,000 shares of our Common Stock to Dr. Goldberg, 250,000 of which were placed in escrow in accordance with the Goldberg Agreement.

On February 11, 2019, Dr. Goldberg represented to the MT Board that he had, without MT Board or shareholder approval, created a subsidiary of MT, transferred all of the assets of MT into the subsidiary, and then issued himself stock in the subsidiary. On February 19, 2019, Navidea notified MT that it was terminating the sublicense in accordance with its terms, effective March 1, 2019, due to MT’s insolvency. On February 20, 2019, the MT Board removed Dr. Goldberg as President and Chief Executive Officer of MT and from any other office of MT to which he may have been appointed or in which he was serving. Dr. Goldberg remains a member of the MT Board, together with John K. Scott, Jr. and Dr. Michael S. Rosol. Mr. Scott is also the Vice Chair of the Board of Directors of Navidea. On or about December 18, 2020, the Joint Official Liquidators and Foreign Representatives of PPVA sent a letter to MT directing that Dr. Goldberg be removed from the MT Board. The MT Board has taken no action in response.

New York Litigation Involving Dr. Goldberg

On February 20, 2019, Navidea filed a complaint against Dr. Goldberg in the United States District Court, Southern District of New York, alleging breach of the Goldberg Agreement, as well as a breach of the covenant of good faith and fair dealing and to obtain a declaratory judgment that Navidea’s performance under the Goldberg Agreement is excused and that Navidea is entitled to terminate the Goldberg Agreement as a result of Dr. Goldberg’s actions. On April 26, 2019, Navidea filed an amended complaint against Dr. Goldberg which added a claim for breach of fiduciary duty seeking damages related to certain actions Dr. Goldberg took while CEO of Navidea. On June 13, 2019, Dr. Goldberg answered the amended complaint and asserted counterclaims against Navidea and third-party claims against MT for breach of the Goldberg Agreement, wrongful termination, injunctive relief, and quantum meruit.

On December 26, 2019, the District Court ruled on several motions related to Navidea and MT and Dr. Goldberg that substantially limited the claims that Dr. Goldberg can pursue against Navidea and MT. Specifically, the District Court found that certain portions of Dr. Goldberg's counterclaims against Navidea and third-party claims against MT failed to state a claim upon which relief can be granted. Additionally, the District Court ruled that actions taken by Navidea and MT, including reconstituting the MT board of directors, replacing Dr. Goldberg with Mr. Latkin as Chief Executive Officer of MT, terminating the sublicense between Navidea and MT, terminating certain research projects, and allowing MT intellectual property to revert back to Navidea, were not breaches of the Goldberg Agreement.

The District Court also rejected Dr. Goldberg's claim for wrongful termination as Chief Executive Officer of MT. In addition, the District Court found that Dr. Goldberg lacked standing to seek injunctive relief to force the removal of Dr. Claudine Bruck and Michael Rice from MT's Board of Directors, to invalidate all actions taken by the MT Board on or after November 29, 2018 (the date upon which Dr. Bruck and Mr. Rice were appointed by Navidea to the Board of MT), or to reinstate the terminated sublicense between Navidea and MT.

In addition, the District Court found Navidea's breach of fiduciary duty claim against Dr. Goldberg for conduct occurring more than three years prior to the filing of the complaint to be time-barred and that Dr. Goldberg is entitled to an advancement of attorneys' fees solely with respect to that claim. To avoid further litigation expenses, the Company agreed to indemnify Dr. Goldberg solely with respect to the breach of fiduciary duty claim.

On January 31, 2020, Goldberg filed a motion for leave to amend his complaint to add back in claims for breach of contract, breach of the implied covenant of good faith and fair dealing, quantum meruit and injunctive relief. On April 1, 2020, the District Court denied Dr. Goldberg's motion for leave to amend in its entirety.

On January 27, 2020, Dr. Goldberg filed a motion seeking additional advancement from Navidea for fees in connection with the New York Action and the Delaware Action. Navidea opposed the motion and the District Court referred the matters to a Magistrate Judge. On July 9, 2020, the Magistrate Judge issued her Report and Recommendation which recommended that: (1) the District Court decline to exercise jurisdiction over Dr. Goldberg's motion as it pertained to expenses and fees incurred in defense of the Delaware Action; (2) the District Court decline to award any fees to Dr. Goldberg for the breach of fiduciary duty without additional motion practice on the issue; (3) the District Court find that Dr. Goldberg is entitled to advancement of his expenses and fees reasonably incurred in the defense of the remainder of the New York action subject to Dr. Goldberg's posting of an undertaking; and (4) establish a protocol by which Dr. Goldberg could establish the amounts due for advancement.

On August 24, 2020, in connection with Dr. Goldberg's motion for advancement, the District Court adopted the Magistrate Judge's report and recommendation and found that while Dr. Goldberg was not being granted advancement of fees and expenses incurred in connection with either the Delaware Action or the assertion of third-party claims against MT, the Court ruled that Dr. Goldberg was entitled to advancement for the defense of the remaining claims asserted against him by Navidea in the New York action. The Court adopted a protocol by which additional motion practice will occur to determine the appropriate amount of fees to be advanced. Once that decision is made by the Magistrate Judge, subject to review by the District Court, Navidea will need to advance those fees to Dr. Goldberg conditioned upon Dr. Goldberg agreeing to pay those fees back to Navidea if it is determined that he is not entitled to indemnification.

On May 27, 2021, the District Court ordered that: (1) Dr. Goldberg be awarded \$14,955 for indemnification for his attorneys' fees for his defense of the breach of fiduciary duty claim; (2) Dr. Goldberg be advanced \$1,237.50 for his attorneys' fees subject to repayment; (3) Navidea should not be required to indemnify or advance any of the costs sought by Dr. Goldberg; (4) Dr. Goldberg is not entitled to advancement for the prosecution of his counterclaims and third-party claims; (5) Dr. Goldberg's motion to hold Navidea in contempt be denied; and (6) Navidea should not be required to advance any additional fees or costs unless Dr. Goldberg presents his time records and costs in compliance with the District Court's orders. The Company has made the payments ordered by the District court.

On August 6, 2021, the Company moved for reconsideration of its obligations to advance fees in light of the Delaware Court's decision dated June 23, 2021 (described below). On October 14, 2021, the Magistrate Judge recommended that Navidea's motion for reconsideration be denied. On March 7, 2022, the District Court adopted the Report and Recommendation in part and permitted Dr. Goldberg to seek advancement for his fees incurred in defense of his claims since September 1, 2020. On April 8, 2022, Dr. Goldberg submitted a fee application seeking advancement of \$143,172.55 for attorneys' fees and disbursements for the time period September 1, 2020 through March 31, 2022. The Company has opposed the fee application and the matter has been referred to the Magistrate Judge for resolution.

Fact discovery and expert discovery in the New York Action have been completed. The Company has moved to disqualify Dr. Goldberg's damages expert and briefing in the District Court was submitted on April 1, 2022. The Court has not yet ruled on the Company's motion. The Company anticipates that once the Court rules on the expert issues, the Court will schedule briefing on summary judgment.

Delaware Litigation Involving Dr. Goldberg

On February 20, 2019, MT initiated a suit against Dr. Goldberg in the Court of Chancery of the State of Delaware (the “Delaware Court”), alleging, among other things, breach of fiduciary duty as a director and officer of MT and conversion, and to obtain a declaratory judgment that the transactions Dr. Goldberg caused MT to effect are void. On June 12, 2019, the Delaware Court found that Dr. Goldberg’s actions were not authorized in compliance with the Delaware General Corporate Law. Specifically, the Delaware Court found that Dr. Goldberg’s creation of a new subsidiary of MT and the purported assignment by Dr. Goldberg of MT’s intellectual property to that subsidiary were void. The Delaware Court’s ruling follows the order on May 23, 2019 in the case, in which it found Dr. Goldberg in contempt of its prior order holding Dr. Goldberg responsible for the payment of MT’s fees and costs to cure the damages caused by Dr. Goldberg’s contempt.

On June 23, 2021, the Delaware Court ruled in favor of MT and against Dr. Goldberg, finding that Dr. Goldberg breached his fiduciary duties to MT. Specifically, the Delaware Court ruled: “Dr. Goldberg attempted to take for himself that which belonged to [MT]. In doing so, he breached his duty of loyalty to [MT] stockholders. [MT] was absolutely justified in bringing this action to remedy (in this case undo) the harm caused by Dr. Goldberg’s misconduct.” The Delaware Court disagreed with MT’s arguments regarding damages and, other than awarding nominal damages, declined to award additional relief beyond that which it had previously granted. With respect to MT’s claim for conversion, the Delaware Court found that the claim was not supported because “Dr. Goldberg confirmed that he currently does not own or possess any intellectual property related to either Navidea or [MT]” and that “any IP Dr. Goldberg created while at Navidea or any of its subsidiaries was and remains the property of Navidea and its subsidiaries.” In addition, the Delaware Court denied Dr. Goldberg’s motion to hold MT’s directors and CEO in contempt, denied Dr. Goldberg’s motion to dismiss the lawsuit against him, and granted MT’s motion to dismiss Dr. Goldberg’s petition to remove MT’s board members. On December 9, 2021, Dr. Goldberg was ordered to reimburse MT in the amount of \$66,796.33 and has paid that amount to Macrophage. Neither party has appealed the Delaware Court’s decision and the Delaware Court’s decisions are now final.

Derivative Action Involving Dr. Goldberg

On July 26, 2019, Dr. Goldberg served shareholder demands on the Boards of Directors of Navidea and MT repeating many of the claims made in the lawsuits described above. On or about November 20, 2019, Dr. Goldberg commenced a derivative action purportedly on behalf of MT in the District Court against Dr. Claudine Bruck, Y. Michael Rice, and Jed Latkin alleging a claim for breach of fiduciary duty based on the actions alleged in the demands. On April 3, 2020, Dr. Goldberg dismissed the derivative action in New York without prejudice, and the Court approved the dismissal. Because Delaware has a three-year statute of limitations that applies to the claims made, Dr. Goldberg is unlikely to be able to further pursue these claims.

Mr. Latkin and Platinum

Jed A. Latkin, our former Chief Executive Officer, Chief Operating Officer and Chief Financial Officer, was an independent consultant that served as a portfolio manager from 2011 through 2015 for two entities, namely Precious Capital and West Ventures, each of which were during that time owned and controlled, respectively, by PPVA and PPCO. Mr. Latkin was party to a consulting agreement with each of Precious Capital and West Ventures pursuant to which, as of April 2015, an aggregate of approximately \$13 million was owed to him, which amount was never paid and Mr. Latkin has no information as to the current value. Mr. Latkin’s consulting agreements were terminated upon his ceasing to be an independent consultant in April 2015 with such entities. During his consultancy, Mr. Latkin was granted a .5% ownership interest in each of Precious Capital and West Ventures, however, to his knowledge he no longer owns such interests. In addition, PPVA owes Mr. Latkin \$350,000 for unpaid consulting fees earned and expenses accrued in 2015 in respect of multiple consulting roles with them. Except as set forth above, Mr. Latkin has no other past or present affiliations with Platinum.

Macrophage Therapeutics, Inc. and Platinum

In March 2015, MT, our previously wholly-owned subsidiary, entered into a Securities Purchase Agreement to sell up to 50 shares of its Series A Convertible Preferred Stock (“MT Preferred Stock”) and warrants to purchase up to 1,500 common shares of MT (“MT Common Stock”) to Platinum and Dr. Michael Goldberg (collectively, the “MT Investors”) for a purchase price of \$50,000 per unit. A unit consisted of one share of MT Preferred Stock and 30 warrants to purchase MT Common Stock. Under the agreement, 40% of the MT Preferred Stock and warrants are committed to be purchased by Dr. Goldberg, and the balance by Platinum. The full 50 shares of MT Preferred Stock and warrants to be sold under the agreement are convertible into, and exercisable for, MT Common Stock representing an aggregate 1% interest on a fully converted and exercised basis. Navidea owns the remainder of the MT Common Stock. On March 11, 2015, definitive agreements with the MT Investors were signed for the sale of the first tranche of 10 shares of MT Preferred Stock and warrants to purchase 300 shares of MT Common Stock to the MT Investors, with gross proceeds to MT of \$500,000. Platinum has since transferred its interests in MT to Navidea.

PRINCIPAL STOCKHOLDERS

The following table sets forth, as of July 15, 2022, certain information with respect to the beneficial ownership of shares of our common stock by: (i) each person known to us to be the beneficial owner of more than 5% of our outstanding shares of our common stock, (ii) each of our directors, (iii) each of our named executive officers, and (iv) our directors and executive officers as a group. Except as indicated in the footnotes to this table, the persons named in the table have sole voting and investment power with respect to all shares of our common stock shown as beneficially owned by them, subject to community property laws, where applicable. Percentage ownership is based on 30,364,792 shares of our common stock outstanding as of July 15, 2022. Shares underlying options or other rights to acquire our common stock that are exercisable within 60 days of July 15, 2022 are considered outstanding for the purpose of computing the percentage ownership of the person holding such options or other rights, but are not deemed outstanding for computing the percentage ownership of any other persons. The address of all directors and executive officers is c/o Navidea Biopharmaceuticals, Inc., 4995 Bradenton Avenue, Suite 240, Dublin, OH 43017.

Beneficial Owner	Number of Shares Beneficially Owned		Percent of Class
Amit Bhalla	33,068	(a)	*
Alexander L. Cappello	26,477	(b)	*
Erika L. Eves	31,021	(c)	*
Michael S. Rosol, Ph.D.	69,645	(d)	*
John K. Scott, Jr.	10,253,534	(e)	31.5%
Malcolm G. Witter	126,388	(f)	*
All directors and executive officers as a group (6 persons)	10,540,133		32.2%

* Less than one percent.

- (a) This amount includes 2,500 shares issuable upon exercise of options with are exercisable within 60 days and 21,373 shares that Mr. Bhalla has the right to receive within 60 days but has elected to defer, but does not include 30,000 shares of unvested restricted stock.
- (b) This amount does not include 30,000 shares of unvested restricted stock.
- (c) This amount includes 14,642 shares issuable upon exercise of options which are exercisable within 60 days and 12,750 shares in Ms. Eves's account in the 401(k) Plan, but does not include 10,333 shares issuable upon exercise of options which are not exercisable within 60 days.
- (d) This amount includes 43,750 shares issuable upon exercise of options which are exercisable within 60 days and 11,320 shares in Dr. Rosol's account in the 401(k) Plan, but does not include 112,500 shares issuable upon exercise of options which are not exercisable within 60 days.
- (e) This amount includes 2,175,000 shares issuable upon conversion of Series F Convertible Preferred Stock, 2,639 shares owned by Mr. Scott's spouse, 7,500 shares owned by Mr. Scott's children and 21,233 shares that Mr. Scott has the right to receive within 60 days but has elected to defer, but does not include 30,000 shares of unvested restricted stock.
- (f) This amount includes 2,500 shares issuable upon exercise of options with are exercisable within 60 days and 21,636 shares that Mr. Witter has the right to receive within 60 days but has elected to defer, but does not include 30,000 shares of unvested restricted stock.

All of our employees and directors, or any of their designees, are prohibited from (i) purchasing financial instruments (including prepaid variable forward contracts, equity swaps, collars, and exchange funds), or (ii) otherwise engaging in transactions (including "short sales" and arrangements involving a non-recourse pledge of securities), that hedge or offset, or are designed to hedge or offset, any decrease in the market value of shares of our common stock granted to such employee or director, or any of their designees, as part of their compensation, or held (directly or indirectly) by such employee or director, or any of their designees.

LEGAL MATTERS

The validity of the securities offered by this prospectus has been passed upon for us by Maslon LLP, 90 South 7th Street, Suite 3300, Minneapolis, Minnesota. The dealer-manager is being represented by Ellenoff Grossman & Schole LLP, New York, New York.

EXPERTS

The financial statements for the years ended December 31, 2021 and 2020 incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2021, have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to substantial doubt about the ability of the Company to continue as a going concern as described in Note 2 to the financial statements) of Marcum LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, with respect to the securities being offered by this prospectus. This prospectus does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and the securities offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference. The SEC maintains an internet website that contains reports, proxy statements, and other information about registrants, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

We are subject to the information and periodic reporting requirements of the Exchange Act, and we file periodic reports, proxy statements and other information with the SEC. 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. We maintain a website at <https://www.navidea.com/>. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not incorporated by reference in, and is not part of, this prospectus.

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 (Commission File No. 001-35076):

- our annual report on Form 10-K for the year ended December 31, 2021, filed with the SEC on [March 28, 2022](#);
- our quarterly report on Form 10-Q for the quarter ended March 31, 2022, filed with the SEC on [May 16, 2022](#);
- our current reports on Form 8-K and all amendments thereto, filed with the SEC on [February 3, 2022](#), [April 7, 2022](#), [April 12, 2022](#), and [April 20, 2022](#); and
- the description of our common stock contained in our registration statement on [Form 8-A](#), filed with the SEC on February 8, 2011, including all amendments and reports filed for the purpose of updating such description.

In addition, all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, prior to the termination of the offering shall be deemed to be incorporated by reference into this prospectus, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information deemed furnished and not filed with the SEC.

We will provide to each person, including any beneficial owners, to whom a prospectus is delivered, a copy of any or all of the reports or documents that have been incorporated by reference in the prospectus contained in the registration statement but not delivered with the prospectus. We will provide these reports or documents upon written or oral request at no cost to the requester. You should direct any written requests for documents to Navidea Biopharmaceuticals, Inc., Attention: Chief Financial Officer, 4995 Bradenton Avenue, Suite 240, Dublin, Ohio 43017-3552. You may also telephone us at (614) 793-7500.

You may also access these documents, free of charge, on the SEC's website at www.sec.gov or on our website at <https://ir.navidea.com/sec-filings>. Except for the specific incorporated documents listed above, the information contained in, or that can be accessed through, our website is not incorporated by reference into this prospectus or the registration statement of which it forms a part.

In accordance with Rule 412 of the Securities Act, any statement contained in a document incorporated by reference herein shall be deemed modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement.

You should rely only on information contained in, or incorporated by reference into, this prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus or incorporated by reference into this prospectus. You should not assume that the information in this prospectus is accurate as of any date other than the date of this prospectus or the date of the documents incorporated by reference in this prospectus.

**Subscription Rights to Purchase up to 35,000 Units
Consisting of an Aggregate of up to 35,000 Shares of Series I Convertible Preferred Stock
And Warrants to Purchase up to 46,666,667 Shares of Common Stock
At a Subscription Price of \$1,000 per Unit**



PROSPECTUS

Dealer-Manager

Maxim Group LLC

, 2022

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13.

Other Expenses of Issuance and Distribution.

The following table sets forth all costs and expenses, other than underwriting discounts and commissions, paid or payable by the Registrant in connection with the sale of the securities being registered under this registration statement. All amounts shown are estimates except for the U.S. Securities and Exchange Commission (the “SEC”), registration fee and the FINRA filing fee.

Expense	Amount
SEC Registration Fee	\$ 3,244.50
Accounting Fees and Expenses	35,000.00
Legal Fees and Expenses	200,000.00
Miscellaneous Fees and expenses	100,000.00
Total	\$ 338,244.50

Item 14.

Indemnification of Directors and Officers.

Section 102(b)(7) of the Delaware General Corporation Law (the “DGCL”) permits a corporation in its certificate of incorporation or an amendment to eliminate or limit the personal liability of its directors or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of law or obtained an improper personal benefit. Our certificate of incorporation provides for this limitation of liability.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, other than an action by or in the right of the corporation, to which he or she is a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. Section 145 further provides that in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnify for such expenses which the Court of Chancery or such other court shall deem proper.

Section 145(g) of the DGCL further authorizes a corporation to purchase and maintain insurance on behalf of any indemnified person against any liability asserted against and incurred by such person in any indemnified capacity, or arising out of such person’s status as such, regardless of whether the corporation would otherwise have the power to indemnify under Delaware law.

We have entered into indemnification agreements with each of our directors and executive officers. In general, these agreements provide that we will indemnify the director or executive officer to the fullest extent permitted by law for claims arising in his or her capacity as a director or officer or in connection with his or her service at our request for another corporation or entity.

Article Nine, Section (b), of our certificate of incorporation further provides that no director will be personally liable to us or our stockholders for monetary damages or for any breach of fiduciary duty except for breach of the director’s duty of loyalty to us or our stockholders, for acts or omissions not in good faith or involving intentional misconduct or a knowing violation of law, pursuant to Section 174 of the Delaware General Corporation Law (which imposes liability in connection with the payment of certain unlawful dividends, stock purchases or redemptions), or any amendment or successor provision thereto, or for any transaction from which a director derived an improper personal benefit.

The indemnification rights set forth above shall not be exclusive of any other right which an indemnified person may have or hereafter acquire under any statute, provision of our certificate of incorporation, our bylaws, agreement, vote of stockholders or disinterested directors or otherwise.

We maintain standard policies of insurance that provide coverage (1) to our directors and officers against loss rising from claims made by reason of breach of duty or other wrongful act and (2) to us with respect to indemnification payments that we may make to such directors and officers.

The foregoing discussion of indemnification merely summarizes certain aspects of indemnification provisions of, and is limited by reference to, the above discussed sections of the DGCL and our certificate of incorporation.

Item 15.

Recent Sales of Unregistered Securities.

- On June 13, 2019, the Company entered into an underwriting agreement (the “June 2019 Agreement”) with H.C. Wainwright & Co., LLC (the “Underwriter”), relating to an underwritten public offering of 8,000,000 shares of the Company’s common stock. Pursuant to the June 2019 Agreement, the Company, in connection with the offering, agreed to issue to the underwriter warrants to purchase up to 690,000 shares of common stock, if the underwriter exercised the Underwriter Option, representing 7.5% of the aggregate number of shares of common stock sold in the offering (the “Underwriter Warrants” and together with the shares issuable upon exercise of the Underwriter Warrants, the “Underwriter Securities”). The Underwriter Warrants will be exercisable at any time and from time to time, in whole or in part, following the date of issuance and ending five years from the date of the execution of the June 2019 Agreement, at a price per share equal to \$0.9375 (125% of the offering price to the public per Share). The Underwriter Securities were issued in reliance upon the exemption from the registration requirements in Section 4(a)(2) of the Act.
 - On December 6, 2019, the Company entered into a Stock Purchase Agreement (the “December 2019 Agreement”) with the investors named therein. Pursuant to the December 2019 Agreement, the investors agreed to purchase approximately 2.1 million shares of the Company’s common stock in a private placement for aggregate gross proceeds to the Company of approximately \$1.9 million. Such shares were sold in reliance upon the exemption from the registration requirements in Section 4(a)(2) of the Securities Act.
 - On February 14, 2020, the Company executed agreements with two existing investors, including John K. Scott, Jr., to purchase approximately 4.0 million shares of the Company’s common stock for aggregate gross proceeds to Navidea of approximately \$3.4 million. The securities to be issued to the Investors will represent approximately 16.5% of the Company’s outstanding common stock after such issuance. The securities offered and to be sold by the Company in the private placement to Mr. Scott were sold in reliance upon the exemption from the registration requirements in Section 4(a)(2) of the Securities Act. The remaining shares were issued pursuant to the Company’s shelf registration statement on Form S-3.
 - On May 6, 2020, the Company entered into a Stock Purchase Agreement and Letter of Investment Intent (the “Keystone Purchase Agreement”) with Keystone Capital Partners, LLC (the “Investor”) pursuant to which the Company agreed to issue to the Investor 420,000 shares of newly-designated Series C Preferred Stock (the “Transaction Shares”) for an aggregate purchase price of \$4,200,000. The Transaction Shares are being sold in reliance upon the exemption from the registration requirements in Section 4(a)(2) of the Securities Act. Pursuant to the Keystone Purchase Agreement, the Investor agreed to purchase Transaction Shares in amounts to be determined by the Investor in one or more closings (each, a “Call Closing”) on or before November 6, 2020, provided that all of the Transaction Shares must be purchased by such date. In the event that the Company has not registered the resale of the shares (“Conversion Shares”) of Common Stock (as defined below) issuable upon conversion of the Transaction Shares to be purchased at any Call Closing, then the Investor will not be obligated to complete the Call Closing until such Conversion Shares are registered for resale.
 - On March 2, 2021, the Company entered into a Stock Purchase Agreement and Letter of Investment Intent with an accredited investor, John K. Scott, Jr. pursuant to which the Company issued to Mr. Scott in a private placement transaction 50,000 shares of newly-designated Series E Redeemable Convertible Preferred Stock (the “Series E Preferred”) for an aggregate purchase price of \$5,000,000. The Series E Preferred were sold in reliance upon the exemption from the registration requirements in Section 4(a)(2) of the Securities Act.
 - On April 12, 2022, the Company issued a secured term note (the “Term Note”) to John K. Scott, Jr., the Vice Chairman of the Board, in the principal amount of up to \$2.5 million, of which \$1.5 million was funded on the closing date, pursuant to a Stock Exchange and Loan Agreement (the “Purchase Agreement”). An additional \$1.0 million was funded on July 1, 2022. The outstanding principal balance of the loan bears interest at a rate of 8% per annum, with payments of interest only to be made over a period of two (2) years. All outstanding principal and accrued and unpaid interest under the Term Note is due and payable on the second anniversary of the Purchase Agreement. As consideration and a partial inducement for Mr. Scott to make the loan, Mr. Scott delivered 50,000 shares of Series E Redeemable Convertible Preferred Stock (“Series E Preferred Stock”), representing 100% of the outstanding Series E Preferred Stock, to the Company in exchange for the Company’s issuance of 1,740 shares of Series F Redeemable Convertible Preferred Stock (“Series F Preferred Stock”) and 3,260 shares of Series G Redeemable Preferred Stock (“Series G Preferred Stock”). The number of shares of Common Stock that the Company may issue to Mr. Scott upon conversion of the Series F Preferred stock may not exceed that number of shares that would result in Mr. Scott owning more than 33.33% of the Company’s then outstanding shares of Common Stock unless the Company obtains stockholder approval to issue more than the 33.33% cap. The Term Note, the Series F Preferred Stock and Series G Preferred Stock and the shares of common stock issuable upon conversion of the Series F Preferred Stock were sold and issued without registration under the Securities Act in reliance on the exemption provided by Section 4(a)(2) of the Securities Act as transactions not involving a public offering.
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Item 16.

Exhibits and financial statement schedules.

- (a) The exhibits to the registration statement are set forth within the Exhibit Index below.
- (b) No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or notes.

Exhibit Index

Exhibit Number	Exhibit Description
3.1	Amended and Restated Certificate of Incorporation of Navidea Biopharmaceuticals, Inc., as corrected February 18, 1994, and amended June 27, 1994, July 25, 1995, June 3, 1996, March 17, 1999, May 9, 2000, June 13, 2003, July 29, 2004, June 22, 2005, November 20, 2006, December 26, 2007, April 30, 2009, July 27, 2009, August 2, 2010, January 5, 2012, June 26, 2013 and August 18, 2016) (incorporated by reference to Exhibit 3.1 to the Company's Annual Report on Form 10-K filed March 31, 2017).
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation of Navidea Biopharmaceuticals, Inc. (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed April 26, 2019).
3.3	Amended and Restated By-Laws dated July 21, 1993, as amended July 18, 1995, May 30, 1996, July 26, 2007, and November 7, 2013 (incorporated by reference to Exhibit 3.2 to the Company's Quarterly Report on Form 10-Q filed November 12, 2013).
3.4	Amendment to Amended and Restated By-Laws, dated April 2, 2021 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed April 5, 2021).
4.1	Certificate of Designations, Voting Powers, Preferences, Limitations, Restrictions, and Relative Rights of Series C Redeemable Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed May 12, 2020).
4.2	Certificate of Elimination (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed September 2, 2020).
4.3	Certificate of Designations, Voting Powers, Preferences, Limitations, Restrictions, and Relative Rights of Series D Redeemable Convertible Preferred Stock (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed September 2, 2020).
4.4	Certificate of Designations, Voting Powers, Preferences, Limitations, Restrictions, and Relative Rights of Series E Redeemable Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed March 4, 2021).
4.5	Amended and Restated Certificate of Designations, Voting Powers, Preferences, Limitations, Restrictions, and Relative Rights of Series B Cumulative Convertible Preferred Stock (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed June 26, 2013).
4.6	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-3 filed December 31, 2019).
4.7	Description of Securities (incorporated by reference to Exhibit 4.3 to the Company's Annual Report on Form 10-K filed March 18, 2020).
4.8	Registration Rights Agreement, dated December 6, 2019, among Navidea Biopharmaceuticals, Inc. and the stockholders named therein (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed December 11, 2019).

- 4.9 Form of Underwriter Warrants ([incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed June 17, 2019](#)).
- 4.10 Registration Rights Agreement, dated February 13, 2020, by and between Navidea Biopharmaceuticals, Inc. and John K. Scott, Jr. ([incorporated by reference to Exhibit 4.5 to the Company's Registration Statement on Form S-3 filed August 25, 2020](#)).
- 4.11 Form of Indenture ([incorporated by reference to Exhibit 4.6 to the Company's Registration Statement on Form S-3 filed February 8, 2021](#)).
- 4.12 Registration Rights Agreement, dated March 2, 2021, by and between Navidea Biopharmaceuticals, Inc. and John K. Scott, Jr. ([incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed March 4, 2021](#)).
- 4.13 Certificate of Designation of Series H Junior Participating Preferred Stock ([incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed April 12, 2022](#)).
- 4.14 Certificate of Designation of Voting Powers, Preferences, Limitations, Restrictions, and Relative Rights of Series F Redeemable Convertible Preferred Stock ([incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed April 12, 2022](#)).
- 4.15 Certificate of Designation of Voting Powers, Preferences, Limitations, Restrictions, and Relative Rights of Series G Redeemable Preferred Stock ([incorporated by reference to Exhibit 3.3 to the Company's Current Report on Form 8-K filed April 12, 2022](#)).
- 4.16 Section 382 Rights Agreement, dated April 7, 2022, by and between Navidea Biopharmaceuticals, Inc. and Continental Stock Transfer & Trust Company, LLC, as Rights Agent ([incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed April 12, 2022](#)).
- 4.17 Registration Rights Agreement, dated April 10, 2022, by and between Navidea Biopharmaceuticals, Inc. and John K. Scott, Jr. ([incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed April 12, 2022](#)).
- 4.18 [Certificate of Designations, Preferences and Rights of Series I Convertible Preferred Stock *](#)
- 4.19 [Form of Common Stock Purchase Warrant to be issued in rights offering *](#)
- 4.20 [Form of Warrant Agency Agreement between Navidea Biopharmaceuticals, Inc. and Continental Stock Transfer & Trust Company, LLC *](#)
- 4.21 [Form of Subscription Rights Certificate *](#)
- 5.1 [Opinion of Maslon LLP. *](#)
- 10.1 License Agreement, dated December 9, 2011, between AstraZeneca AB and the Company (portions of this Exhibit have been omitted pursuant to a request for confidential treatment and have been filed separately with the U.S. Securities and Exchange Commission) ([incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K/A filed April 11, 2012](#)).
- 10.2 Series HH Warrant to purchase Common Stock of Navidea Biopharmaceuticals, Inc. issued to GE Capital Equity Investments, Inc., dated June 25, 2013 ([incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K/A filed June 28, 2013](#)).
- 10.3 Series HH Warrant to purchase Common Stock of Navidea Biopharmaceuticals, Inc. issued to MidCap Financial SBIC, LP, dated June 25, 2013 ([incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K/A filed June 28, 2013](#)).
- 10.4 Office Lease, dated August 29, 2013, by and between Navidea Biopharmaceuticals, Inc. and BRE/COH OH LLC (portions of this Exhibit have been omitted pursuant to a request for confidential treatment and have been filed separately with the U.S. Securities and Exchange Commission) ([incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed September 5, 2013](#)).
- 10.5 License Agreement, dated July 14, 2014, between the Company and the Regents of the University of California (portions of this Exhibit have been omitted pursuant to a request for confidential treatment and have been filed separately with the U.S. Securities and Exchange Commission) ([incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed August 11, 2014](#)).
- 10.6 Form of Stock Option Agreement under the Navidea Biopharmaceuticals, Inc. 2014 Stock Incentive Plan ([incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed November 10, 2014](#)). ^
- 10.7 Form of Restricted Stock Award and Agreement under the Navidea Biopharmaceuticals, Inc. 2014 Stock Incentive Plan ([incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed November 10, 2014](#)). ^
- 10.8 Securities Exchange Agreement dated as of March 11, 2015 among Macrophage Therapeutics, Inc., Platinum-Montaur Life Sciences, LLC and Michael Goldberg, M.D. ([incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed May 11, 2015](#)).
- 10.9 Term Loan Agreement, dated as of May 8, 2015, by and among Navidea Biopharmaceuticals, Inc., as borrower, Macrophage Therapeutics, Inc. as guarantor, and Capital Royalty Partners II L.P., Capital Royalty Partners II – Parallel Fund “A” L.P. and Parallel Investment Opportunities Partners II L.P., as lenders ([incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K/A filed October 9, 2015](#)).
- 10.10 Security Agreement, dated as of May 15, 2015 among Navidea Biopharmaceuticals, Inc., as borrower, Macrophage Therapeutics, Inc. as guarantor, and Capital Royalty Partners II L.P., Capital Royalty Partners II – Parallel Fund “A” L.P. and Parallel Investment Opportunities Partners II L.P., as lenders, and Capital Royalty Partners II L.P., as control agent ([incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed May 15, 2015](#)).
- 10.11 Form of Series LL Warrant issued to Montsant Partners LLC and Platinum Partners Value Arbitrage Fund, L.P. ([incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed August 26, 2015](#)).
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- 10.12 Amendment 1 to Term Loan Agreement by and among Navidea Biopharmaceuticals, Inc., as borrower, and Capital Royalty Partners II L.P., Capital Royalty Partners II – Parallel Fund “A” L.P. and Parallel Investment Opportunities Partners II L.P., as lenders, dated as of December 23, 2015 ([incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K filed January 11, 2016](#)).
- 10.13 Form of Director Agreement ([incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K filed May 10, 2016](#)).
- 10.14 Asset Purchase Agreement, dated November 23, 2016, between Navidea Biopharmaceuticals, Inc. and Cardinal Health 414, LLC ([incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K filed November 30, 2016](#)).
- 10.15 Global Settlement Agreement dated March 3, 2017, by and among Navidea Biopharmaceuticals, Inc., Cardinal Health 414, LLC, Macrophage Therapeutics, Inc., Capital Royalty Partners II L.P., Capital Royalty Partners II (Cayman), L.P., Capital Royalty Partners II – Parallel Fund “A” L.P., Parallel Investment Opportunities Partners II L.P. and Capital Royalty Partners II – Parallel Fund “B” (Cayman) L.P. ([incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K filed March 9, 2017](#)).
- 10.16 License-Back Agreement, dated March 3, 2017, between Navidea Biopharmaceuticals, Inc. and Cardinal Health 414, LLC ([incorporated by reference to Exhibit 10.3 to the Company’s Current Report on Form 8-K filed March 9, 2017](#)).
- 10.17 Series NN Warrant, dated March 3, 2017, issued to Cardinal Health 414, LLC ([incorporated by reference to Exhibit 10.4 to the Company’s Current Report on Form 8-K filed March 9, 2017](#)).
- 10.18 Series NN Warrant, dated March 3, 2017, issued to The Regents of the University of California (San Diego) ([incorporated by reference to Exhibit 10.5 to the Company’s Current Report on Form 8-K filed March 9, 2017](#)).
- 10.19 Amended and Restated License Agreement, dated March 3, 2017, between Navidea Biopharmaceuticals, Inc. and The Regents of the University of California (San Diego) (portions of this Exhibit have been omitted pursuant to a request for confidential treatment and have been filed separately with the Securities and Exchange Commission) ([incorporated by reference to Exhibit 10.6 to the Company’s Current Report on Form 8-K filed March 9, 2017](#)).
- 10.20 Amendment to Asset Purchase Agreement dated April 2, 2018, between Navidea Biopharmaceuticals, Inc. and Cardinal Health 414, LLC ([incorporated by reference to Exhibit 10.1 to the Company’s Quarterly Report on Form 10-Q filed May 9, 2018](#)).
- 10.21 Agreement dated August 14, 2018, by and among Navidea Biopharmaceuticals, Inc., Macrophage Therapeutics, Inc. and Michael M. Goldberg, M.D. ([incorporated by reference to Exhibit 10.1 to the Company’s Quarterly Report on Form 10-Q filed November 9, 2018](#)).
- 10.22 Employment Agreement, effective October 1, 2018, by and between Navidea Biopharmaceuticals, Inc. and Jed A. Latkin ([incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K filed October 5, 2018](#)).[^]
- 10.23 Form of Series OO Underwriter’s Common Stock Purchase Warrant issued to the underwriter’s designees on June 18, 2019 ([incorporated by reference to Exhibit 4.1 to the Company’s Current Report on Form 8-K filed June 17, 2019](#)).
- 10.24 Termination Agreement, effective May 11, 2020, among Navidea Biopharmaceuticals, Inc., SpePharm AG, and Norgine BV ([incorporated by reference to Exhibit 10.2 to the Company’s Current Report on Form 8-K filed May 12, 2020](#)).
- 10.25 Employment Agreement, effective July 27, 2020, by and between Navidea Biopharmaceuticals, Inc. and Jed A. Latkin ([incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K filed July 31, 2020](#)).[^]
- 10.26 Amended and Restated Equity Commitment Letter, dated August 14, 2020, by and between Navidea Biopharmaceuticals, Inc. and Mastiff Group, LLC ([incorporated by reference to Exhibit 10.4 to the Company’s Quarterly Report on Form 10-Q filed August 14, 2020](#)).
- 10.27 Stock Purchase Agreement and Letter of Investment Intent, dated August 31, 2020, by and between Navidea Biopharmaceuticals, Inc. and Keystone Capital Partners, LLC ([incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K filed September 2, 2020](#)).
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- 10.28 Stock Purchase Agreement, dated August 30, 2020, among Navidea Biopharmaceuticals, Inc., Mastiff Group, LLC and John K. Scott, Jr. ([incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed September 2, 2020](#)).
- 10.29 Navidea Biopharmaceuticals, Inc. 2014 Stock Incentive Plan (as amended and restated on August 16, 2018 and September 10, 2020) ([incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-8 filed November 13, 2020](#)).
- 10.30 Stock Purchase Agreement and Letter of Investment Intent, dated March 2, 2021, by and between Navidea Biopharmaceuticals, Inc. and John K. Scott, Jr. ([incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed March 4, 2021](#)).
- 10.31 Amendment to Stock Purchase Agreement and Letter of Investment Intent, dated July 8, 2021, by and between Navidea Biopharmaceuticals, Inc. and Keystone Capital Partners LLC ([incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed July 13, 2021](#)).
- 10.32 Separation Agreement and General Release, dated November 23, 2021, by and between Navidea Biopharmaceuticals, Inc. and Jed A. Latkin ([incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed November 26, 2021](#)).^
- 10.33 Stock Exchange and Loan Agreement, dated April 10, 2022, by and between Navidea Biopharmaceuticals, Inc. and John K. Scott, Jr. ([incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed April 12, 2022](#)).
- 10.34 Secured Term Note, dated April 10, 2022, by Navidea Biopharmaceuticals, Inc. ([incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed April 12, 2022](#)).
- 10.35 Security Agreement, dated April 10, 2022, by Navidea Biopharmaceuticals, Inc. ([incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed April 12, 2022](#)).
- 23.1 [Consent of Marcum LLP *](#)
- 23.2 [Consent of Maslon LLP \(included in Exhibit 5.1\) *](#)
- 24.1 [Power of Attorney \(included on the signature page to this registration statement\) ***](#)
- 99.1 [Form of Instructions as to Use of Subscription Rights Certificate *](#)
- 99.2 [Form of Letter to Stockholders who are Record Holders *](#)
- 99.3 [Form of Letter to Beneficial Holders *](#)
- 99.4 [Form of Letter to Brokers, Dealers and Other Nominees *](#)
- 99.5 [Form of Nominee Holder Certification *](#)
- 99.6 [Form of Beneficial Owner Election Form *](#)
- 107 [Calculation of Filing Fees. ***](#)

^ Management contract or compensatory plan or arrangement.

* Filed herewith.

** To be filed by amendment.

*** Previously filed.

Item 17.

Undertakings.

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

- (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933, as amended (the "Securities Act");
- (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

provided, however, that paragraphs (i), (ii) and (iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is a part of the registration statement;

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

- (i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
- (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
 - (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
 - (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.
- (b) The undersigned registrant hereby further undertakes that for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.
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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this amended registration statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Dublin, State of Ohio, on the 20th day of July, 2022.

NAVIDEA BIOPHARMACEUTICALS, INC.

By /s/ Michael S. Rosol
Michael S. Rosol, Ph.D.
Chief Medical Officer (Principal Executive Officer)

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

Signature	Title	Date
<u>/s/ Michael S. Rosol</u> Michael S. Rosol, Ph.D.	Chief Medical Officer (Principal Executive Officer)	July 20, 2022
<u>/s/ Erika L. Eves</u> Erika L. Eves	Vice President, Finance & Administration (Principal Financial Officer and Principal Accounting Officer)	July 20, 2022
<u>/s/ Alexander L. Cappello</u> Alexander L. Cappello	Chair of the Board of Directors	July 20, 2022
<u>/s/ John K. Scott, Jr.</u> John K. Scott, Jr.	Vice Chair of the Board of Directors	July 20, 2022
<u>/s/ Amit Bhalla</u> Amit Bhalla	Director	July 20, 2022
<u>/s/ Malcolm G. Witter</u> Malcolm G. Witter	Director	July 20, 2022

**CERTIFICATE OF DESIGNATION OF PREFERENCES, RIGHTS AND LIMITATIONS
OF SERIES I CONVERTIBLE PREFERRED STOCK OF
NAVIDEA BIOPHARMACEUTICALS, INC.**

Pursuant to Section 151 of the General Corporation Law of the State of Delaware, Navidea Biopharmaceuticals, Inc., a corporation organized and existing under the General Corporation Law of the state of Delaware (the “Corporation”), does hereby submit the following:

WHEREAS, the Amended and Restated Certificate of Incorporation, as amended, of the Corporation (the “Certificate of Incorporation”) authorizes the issuance of up to 5,000,000 shares of preferred stock, par value \$0.001 per share, of the Corporation (“Preferred Stock”) in one or more series, and expressly authorizes the Board of Directors of the Corporation (the “Board”), subject to limitations prescribed by law, to provide, out of the unissued shares of Preferred Stock, for series of Preferred Stock, and, with respect to each such series, to establish and fix the number of shares to be included in any series of Preferred Stock and the designation, rights, preferences, powers, restrictions, and limitations of the shares of such series; and

WHEREAS, it is the desire of the Board to establish and fix the number of shares to be included in a new series of Preferred Stock and the designation, rights, preferences, and limitations of the shares of such new series.

NOW, THEREFORE, BE IT RESOLVED, that the Board does hereby provide for the issue of a series of Preferred Stock and does hereby in this Certificate of Designation (the “Certificate of Designation”) establish and fix and herein state and express the designation, rights, preferences, powers, restrictions, and limitations of such series of Preferred Stock as follows:

Section 1. Definitions.

For the purposes hereof, the following terms shall have the following meanings:

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 of the Securities Act.

“Alternate Consideration” shall have the meaning set forth in Section 7(d).

“Beneficial Ownership Limitation” shall have the meaning set forth in Section 6(d).

“Board” shall have the meaning set forth in the Recitals.

“Business Day” means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed; provided, however, for clarification, commercial banks shall not be deemed to be authorized or required by law to remain closed due to “stay at home”, “shelter-in-place”, “non-essential employee” or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in The City of New York are generally are open for use by customers on such day.

“Commission” means the United States Securities and Exchange Commission.

“Common Stock” means the Corporation’s common stock, par value \$0.001 per share, and stock of any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Conversion Amount” means the sum of the Stated Value at issue.

“Conversion Date” shall have the meaning set forth in Section 6(a).

“Conversion Price” shall have the meaning set forth in Section 6(b).

“Conversion Shares” means, collectively, the shares of Common Stock issuable upon conversion of the shares of Series I Preferred Stock in accordance with the terms hereof.

“Dealer Manager Agreement” means the dealer manager agreement, dated [], 2022, by and between the Corporation and Maxim Group LLC.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Exchange Agent” means Continental Stock Transfer & Trust Company, LLC.

“Exempt Issuance” means the sale or issuance of (i) shares of Common Stock or options issued to employees or directors of the Company pursuant to a plan, agreement or arrangement approved by the Board of Directors; (ii) securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Certificate of Designations, provided that such securities have not been amended since the date of this Certificate of Designations to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations) or to extend the term of such securities; (iii) shares of Common Stock, options or convertible securities issued as acquisition consideration pursuant to the acquisition of another entity by the Company by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, provided that such issuances are approved by the Board of Directors provided that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith until the 180th day after the date of this Certificate of Designations, and provided that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities; (iv) shares of Common Stock, options or convertible securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors provided that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith until the 180th day after the date of this Certificate of Designations, and provided that any such issuance shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities; and (v) shares of Common Stock issued in connection with the issuance of bona fide commercial bank debt or equipment lease transactions, provided that such issuances are approved by the Board of Directors provided that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith until the 180th day after the date of this Certificate of Designations.

“Fundamental Transaction” shall have the meaning set forth in Section 7(d).

“Holder” shall mean each of the holders of the Series I Preferred Stock.

“Liquidation” shall have the meaning set forth in Section 5.

“Notice of Conversion” shall have the meaning set forth in Section 6(a).

“Original Issue Date” means the date of the first issuance of any shares of the Series I Preferred Stock regardless of the number of transfers of any particular shares of Series I Preferred Stock and regardless of the number of certificates which may be issued to evidence such Series I Preferred Stock.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Preferred Stock” has the meaning set forth in the Recitals.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Series I Preferred Stock” shall have the meaning set forth in Section 2.

“Share Delivery Date” shall have the meaning set forth in Section 6(c).

“Stated Value” shall have the meaning set forth in Section 2.

“Subscription Rights Certificate” shall mean, as to each Holder, the subscription rights certificate completed by such Holder and countersigned by Broadridge.

“Subsidiary” means any direct or indirect subsidiary of the Corporation.

“Successor Entity” shall have the meaning set forth in Section 7(d).

“Trading Day” means a day on which the principal Trading Market is open for business.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, or the New York Stock Exchange (or any successors to any of the foregoing).

“Transaction Documents” means this Certificate of Designation, the Dealer Manager Agreement, the Warrant Agreement, the Warrants, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated therein.

“Transfer Agent” means Continental Stock Transfer & Trust Company, LLC and a facsimile number of [() - -] and any successor transfer agent of the Corporation.

“Warrant Agreement” means the warrant agency agreement, dated on or about [], 2022, between the Corporation and the Transfer Agent.

“Warrants” means, collectively, the Common Stock purchase warrants delivered to the Holders at the closing in accordance with the Warrant Agreement, which Warrants shall be exercisable immediately and have a term of exercise equal to five (5) years, in the form of Exhibit A attached to the Warrant Agreement.

Section 2. Designation, Amount and Par Value.

The series of preferred stock shall be designated as its Series I Convertible Preferred Stock (the “Series I Preferred Stock”) and the number of shares so designated shall be up to 42,000 (which shall not be subject to increase without the written consent of a majority of the holders of the Series I Preferred Stock then outstanding). Each share of Series I Preferred Stock shall have a par value of \$0.001 per share and a stated value equal to \$1,000 (the “Stated Value”). The shares of Series I Preferred Stock shall initially be issued and maintained in the form of securities held in book-entry form and the Depository Trust Company or its nominee (“DTC”) shall initially be the sole registered holder of the shares of Series I Preferred Stock.

Section 3. Dividends.

Except for stock dividends or distributions for which adjustments are to be made pursuant to Section 7, the Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Series I Preferred Stock equal (on an as-if-converted-to-Common-Stock basis, disregarding for such purposes any conversion limitations hereunder) to and in the same form as dividends actually paid on shares of the Common Stock when, as and if such dividends are paid on shares of the Common Stock. No other dividends shall be paid on shares of Series I Preferred Stock, subject to and in accordance with Section 7 below. The Corporation shall not pay any dividends on the Common Stock unless the Corporation simultaneously complies with this provision.

Section 4. Voting Rights.

Except as otherwise provided herein or as otherwise required by law, the Preferred Stock shall have no voting rights. However, as long as any shares of Series I Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of the Holders of a majority of the then outstanding shares of the Series I Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series I Preferred Stock or alter or amend this Certificate of Designation, (b) amend its certificate of incorporation or other charter documents in any manner that adversely affects any rights of the Holders disproportionately to the rights of holders of other capital stock of the Corporation, (c) increase the number of authorized shares of Series I Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing.

Section 5. Liquidation.

Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a “Liquidation”), the Holders shall be entitled to receive out of the assets, whether capital or surplus, of the Corporation the same amount that a holder of Common Stock would receive if the Series I Preferred Stock were fully converted (disregarding for such purpose any conversion limitations hereunder) to Common Stock which amounts shall be paid pari passu with all holders of Common Stock. For the avoidance of any doubt, a Fundamental Transaction shall not be deemed a Liquidation. The Corporation shall mail written notice of any such Liquidation, not less than 45 days prior to the payment date stated therein, to each Holder.

Section 6.

Conversion.

a. Conversion at Option of Holder.

i. Each share of Series I Preferred Stock shall be convertible, at any time and from time to time from and after the Original Issue Date, at the option of the Holder thereof, into that number of shares of Common Stock (subject to the limitations set forth in Section 6(d)) determined by dividing the Stated Value of such share of Series I Preferred Stock by the Conversion Price. Holders shall effect conversions by providing the Corporation with the form of conversion notice attached hereto as Annex A (a “Notice of Conversion”). Each Notice of Conversion shall specify the number of shares of Series I Preferred Stock to be converted, the number of shares of Series I Preferred Stock owned prior to the conversion at issue, the number of shares of Series I Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which day may not be prior to the date the applicable Holder delivers by facsimile or email such Notice of Conversion to the Corporation (such date or the date the Corporation effects an option conversion, the “Conversion Date”). The Conversion Date for a holder whose interest in the shares of Series I Preferred Stock is a beneficial interest in certificate(s) representing the shares of Series I Preferred Stock held in book-entry form through DTC (or another established clearing corporation performing similar functions), shall be the date that DTC (or another established clearing corporation performing similar functions) provides such Notice of Conversion to the Corporation and its Exchange Agent.

ii. Upon delivery of the Notice of Conversion, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Conversion Shares with respect to which the shares of Series I Preferred Stock have been converted irrespective of the date of delivery of the Conversion Shares, provided that the Holder shall deliver such converted shares of Series I Preferred Stock to the Transfer Agent via the DTC’s Deposit/Withdrawal at Custodian system within two Trading Days of delivery of the Notice of Conversion. If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion to the Corporation is deemed delivered hereunder. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. To effect conversions of shares of Series I Preferred Stock, a Holder shall not be required to surrender the certificate(s) representing the shares of Series I Preferred Stock to the Corporation unless all of the shares of Series I Preferred Stock represented thereby are so converted, in which case such Holder shall deliver the certificate representing such shares of Series I Preferred Stock promptly following the Conversion Date at issue. Shares of Series I Preferred Stock converted into Common Stock or redeemed in accordance with the terms hereof shall be canceled and shall not be reissued. Notwithstanding anything herein to the contrary, with respect to any conversion at the option of the Corporation hereunder, the Corporation shall exercise such option to convert shares of Series I Preferred Stock on a pro rata basis among Holders based on such Holders’ shares of Series I Preferred Stock. Notwithstanding the foregoing, with respect to any Notice(s) of Conversion delivered by 12:00 p.m. (New York City time) on the Original issue Date, the Corporation agrees to deliver the Conversion Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Original Issue Date.

iii. Without limiting the rights and remedies of a holder of Series I Preferred Stock hereunder and without limiting the right of a Holder to deliver a Notice of Conversion to the Corporation, a holder whose interest in the shares of Series I Preferred Stock is a beneficial interest in certificate(s) representing the shares of Series I Preferred Stock held in book-entry form through DTC (or another established clearing corporation performing similar functions), shall effect conversions made pursuant to this Section 6(a) by delivering to DTC (or such other clearing corporation, as applicable) the appropriate instruction form for conversion, complying with the procedures to effect conversions that are required by DTC (or such other clearing corporation, as applicable).

b. Conversion Price. The conversion price for the Series I Preferred Stock shall equal \$____, subject to adjustment herein (the "Conversion Price").

c. Mechanics of Conversion.

i. Delivery of Conversion Shares Upon Conversion. Not later than the earlier of (y) two (2) Trading Days after each Conversion Date and (z) the number of Trading Days comprising the Standard Settlement Period (as defined below) (the "Share Delivery Date"), the Corporation shall deliver, or cause to be delivered, to the converting Holder the number of Conversion Shares being acquired upon the conversion of the Series I Preferred Stock, which Conversion Shares shall be free of restrictive legends and trading restrictions. The Corporation shall deliver the Conversion Shares electronically through the Depository Trust Company or another established clearing corporation performing similar functions. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Corporation's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Conversion.

ii. Failure to Deliver Conversion Shares. If, in the case of any Notice of Conversion, such Conversion Shares are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to the Corporation at any time on or before its receipt of such Conversion Shares, to rescind such Conversion, in which event the Corporation shall promptly return to the Holder any original Series I Preferred Stock certificate delivered to the Corporation and the Holder shall promptly return to the Corporation the Conversion Shares issued to such Holder pursuant to the rescinded Notice of Conversion.

iii. Obligation Absolute; Partial Liquidated Damages. The Corporation's obligation to issue and deliver the Conversion Shares upon conversion of Series I Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by such Holder or any other Person of any obligation to the Corporation or any violation or alleged violation of law by such Holder or any other person, and irrespective of any other circumstance which might otherwise limit such obligation of the Corporation to such Holder in connection with the issuance of such Conversion Shares; provided, however, that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. In the event a Holder shall elect to convert any or all of the Stated Value of its Preferred Stock, the Corporation may not refuse conversion based on any claim that such Holder or any one associated or affiliated with such Holder has been engaged in any violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and/or enjoining conversion of all or part of the Preferred Stock of such Holder shall have been sought and obtained, and the Corporation posts a surety bond for the benefit of such Holder in the amount of 150% of the Stated Value of Preferred Stock which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to such Holder to the extent it obtains judgment. In the absence of such injunction, the Corporation shall issue Conversion Shares and, if applicable, cash, upon a properly noticed conversion. If the Corporation fails to deliver to a Holder such Conversion Shares pursuant to Section 6(c)(i) by the Share Delivery Date applicable to such conversion, the Corporation shall pay to such Holder, in cash, as liquidated damages and not as a penalty, for each \$5,000 of Stated Value of Preferred Stock being converted, \$50 per Trading Day (increasing to \$100 per Trading Day on the third Trading Day and increasing to \$200 per Trading Day on the sixth Trading Day after the Share Delivery Date) for each Trading Day after the Share Delivery Date until such Conversion Shares are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages for the Corporation's failure to deliver Conversion Shares within the period specified herein and such Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

i. Compensation for Buy-In on Failure to Timely Deliver Conversion Shares Upon Conversion. In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable Conversion Shares by the Share Delivery Date pursuant to Section 6(c)(i), and if after such Share Delivery Date such Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by such Holder of the Conversion Shares which such Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then the Corporation shall (A) pay in cash to such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of such Holder, either reissue (if surrendered) the shares of Preferred Stock equal to the number of shares of Preferred Stock submitted for conversion (in which case, such conversion shall be deemed rescinded) or deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section 6(c)(i). For example, if a Holder purchases shares of Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted conversion of shares of Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of \$10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder \$1,000. The Holder shall provide the Corporation written notice indicating the amounts payable to such Holder in respect of the Buy-In and, upon request of the Corporation, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Corporation's failure to timely deliver the Conversion Shares upon conversion of the shares of Preferred Stock as required pursuant to the terms hereof.

i v. Reservation of Shares issuable Upon Conversion. The Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Series I Preferred Stock, each as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other holders of the Series I Preferred Stock), not less than such aggregate number of shares of the Common Stock as shall be issuable (taking into account the adjustments and restrictions of Section 7) upon the conversion of the then outstanding shares of Series I Preferred Stock. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.

v. Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the conversion of the Series I Preferred Stock. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such conversion, the Corporation shall at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round up to the next whole share. Notwithstanding anything to the contrary contained herein, but consistent with the provisions of this subsection with respect to fractional Conversion Shares, nothing shall prevent any Holder from converting fractional shares of Series I Preferred Stock.

vi. Transfer Taxes and Expenses. The issuance of Conversion Shares on conversion of this Series I Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such Conversion Shares, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such Conversion Shares upon conversion in a name other than that of the Holders of such shares of Series I Preferred Stock and the Corporation shall not be required to issue or deliver such Conversion Shares unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been paid. The Corporation shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Conversion Shares.

d. Beneficial Ownership Limitation. The Corporation shall not effect any conversion of the Series I Preferred Stock, and a Holder shall not have the right to convert any portion of the Series I Preferred Stock, to the extent that, after giving effect to the conversion set forth on the applicable Notice of Conversion, such Holder (together with such Holder's Affiliates, and any Persons acting as a group together with such Holder or any of such Holder's Affiliates (such Persons, "Attribution Parties")) would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by such Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon conversion of the Series I Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted Stated Value of Series I Preferred Stock beneficially owned by such Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, the Series I Preferred Stock or the Warrants) beneficially owned by such Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 6(d), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 6(d) applies, the determination of whether the Series I Preferred Stock is convertible (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and of how many shares of Series I Preferred Stock are convertible shall be in the sole discretion of such Holder, and the submission of a Notice of Conversion shall be deemed to be such Holder's determination of whether the shares of Series I Preferred Stock may be converted (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and how many shares of the Series I Preferred Stock are convertible, in each case subject to the Beneficial Ownership Limitation. To ensure compliance with this restriction, each Holder will be deemed to represent to the Corporation each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this paragraph and the Corporation shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 6(d), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) the Corporation's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by the Corporation or (iii) a more recent written notice by the Corporation or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request (which may be via email) of a Holder, the Corporation shall within two Trading Days confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Corporation, including the Series I Preferred Stock, by such Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of Series I Preferred Stock held by the applicable Holder. A Holder may not increase the Beneficial Ownership Limitation provisions of this Section 6(d) applicable to its Series I Preferred Stock without the prior written consent of the Corporation, which may be withheld in the sole discretion of the Corporation; it being understood that in no case shall the Beneficial Ownership Limitation exceed 9.99% of the number of shares of Common Stock outstanding after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the holder and the provisions of this Section 6(d) shall continue to apply. Any such increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered and approved by the Corporation and shall only apply to such Holder and no other Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6(d) to correct this paragraph (or any portion hereon which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of Series I Preferred Stock.

Section 7. Certain Adjustments.

a. Stock Dividends and Stock Splits. If the Corporation, at any time while this Series I Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions that is payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Corporation upon conversion of, or payment of a dividend on, this Series I Preferred Stock), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of the Corporation, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of the Corporation) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 7(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b. Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of such Holder's Series I Preferred Stock (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

c. Pro Rata Distributions. During such time as this Series I Preferred Stock is outstanding, if the Corporation shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Series I Preferred Stock, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of this Series I Preferred Stock (without regard to any limitations on conversion hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d. Fundamental Transaction. If, at any time while this Series I Preferred Stock is outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Corporation with or into another Person, (ii) the Corporation, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Corporation or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Corporation, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Corporation, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a "Fundamental Transaction"), then, upon any subsequent conversion of this Series I Preferred Stock, the Holder shall have the right to receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of this Series I Preferred Stock), the number of shares of Common Stock of the successor or acquiring corporation or of the Corporation, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Series I Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of this Series I Preferred Stock). For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Corporation shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any conversion of this Series I Preferred Stock following such Fundamental Transaction. The amount of any consideration to be received by a Holder in connection with a Fundamental Transaction shall be payable in the same type or form of consideration (and in the same proportion) that is being offered and paid to the holders of Common Stock of the Corporation in connection with the Fundamental Transaction, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designation with the same terms and conditions and issue to the Holders new preferred stock consistent with the foregoing provisions and evidencing the Holders' right to convert such preferred stock into Alternate Consideration. The Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents in accordance with the provisions of this Section 7(d) pursuant to written agreements prior to such Fundamental Transaction and shall, at the option of the holder of this Series I Preferred Stock, deliver to the Holder in exchange for this Series I Preferred Stock a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Series I Preferred Stock which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of this Series I Preferred Stock (without regard to any limitations on the conversion of this Series I Preferred Stock) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of this Series I Preferred Stock immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Certificate of Designation and the other Transaction Documents referring to the "Corporation" shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Corporation herein.

e. Subsequent Equity Sales. If, at any time while the Series I Preferred Stock is outstanding, the Corporation or any subsidiary thereof, as applicable, sells or grants any option to purchase or sells or grants any right to reprice, or otherwise disposes of or issues (or announces any offer, sale, grant or any option to purchase or other disposition), any Common Stock or Common Stock Equivalents entitling any Person to acquire shares of Common Stock at an effective price per share that is lower than the Conversion Price then in effect (such lower price, the “Base Conversion Price” and such issuances, collectively, a “Dilutive Issuance”) (it being understood and agreed that if the holder of the Common Stock or Common Stock Equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive shares of Common Stock at an effective price per share that is lower than the Conversion Price, such issuance shall be deemed to have occurred for less than the Conversion Price on such date of the Dilutive Issuance at such effective price), then simultaneously with the consummation (or, if earlier, the announcement) of each Dilutive Issuance the Conversion Price shall be reduced and only reduced to equal the Base Conversion Price, provided that the Base Conversion Price shall not be less than \$____¹ (subject to adjustment for reverse and forward stock splits, recapitalizations and similar transactions following the date of this Certificate of Designations). Notwithstanding the foregoing, no adjustment will be made under this Section 7(e) in respect of an Exempt Issuance. The Corporation shall notify the Holders in writing, no later than the Trading Day following the issuance or deemed issuance of any Common Stock or Common Stock Equivalents subject to this Section 7(e), indicating therein the applicable issuance price, or applicable reset price, exchange price, conversion price, exercise price and other pricing terms (such notice, the “Dilutive Issuance Notice”). For purposes of clarification, whether or not the Corporation provides a Dilutive Issuance Notice pursuant to this Section 7(e), upon the occurrence of any Dilutive Issuance, the Holders are entitled to receive a number of Conversion Shares based upon the Base Conversion Price on or after the date of such Dilutive Issuance, regardless of whether a Holder accurately refers to the Base Conversion Price in the Notice of Conversion. If the Company enters into a Variable Rate Transaction, the Company shall be deemed to have issued Common Stock or Common Stock Equivalents at the lowest possible price, conversion price or exercise price at which such securities may be issued, converted or exercised. The adjustment under this Section 7(e) may be waived with respect to a particular Dilutive Issuance on behalf of all holders of Series I Preferred Stock by the affirmative written consent or vote of the holders of at least a majority of the shares of Series I Preferred Stock then outstanding.

¹ Greater of (i) \$0.15 and (ii) 30% of the closing bid price of the Common Stock on the date prior to the execution of the Dealer Manager Agreement.

f. Calculations. All calculations under this Section 7 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 7, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of the Corporation) issued and outstanding.

g. Notice to the Holders.

i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 7, the Corporation shall promptly deliver to each Holder by facsimile or email a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be filed at each office or agency maintained for the purpose of conversion of this Series I Preferred Stock, and shall cause to be delivered by facsimile or email to each Holder at its last facsimile number or email address as it shall appear upon the stock books of the Corporation, at least twenty (20) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to convert the Conversion Amount of this Series I Preferred Stock (or any part hereof) during the 20-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 8. Miscellaneous.

a. Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Conversion, shall be in writing and delivered personally, by facsimile or e-mail, or sent by a nationally recognized overnight courier service, addressed to the Corporation, at the following address: 4995 Bradenton Avenue, Suite 240, Dublin, Ohio 43017 Attention: Vice President of Finance & Administration, facsimile number 614-793-7520, e-mail address EEves@navidea.com, or such other facsimile number, e-mail address or address as the Corporation may specify for such purposes by notice to the Holders delivered in accordance with this 2i. Any and all notices or other communications or deliveries to be provided by the Corporation hereunder shall be in writing and delivered personally, by facsimile or e-mail, or sent by a nationally recognized overnight courier service addressed to each Holder at the facsimile number, e-mail address or address of such Holder appearing on the books of the Corporation, or if no such facsimile number, e-mail address or address appears on the books of the Corporation, at the principal place of business of such Holder, as set forth in such Holder's Subscription Rights Certificate. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number or e-mail at the e-mail address et forth in this Section 8 prior to 5:30 p.m. (New York City Time) on any date, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number or e-mail address set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (if) upon actual receipt by the party to whom such notice is required to be given.

b. Absolute Obligation. Except as expressly provided herein, no provision of this Certificate of Designation shall alter or impair the obligation of the Corporation, which is absolute and unconditional, to pay liquidated damages, accrued dividends and accrued interest, as applicable, on the shares of Preferred Stock at the time, place, and rate, and in the coin or currency, herein prescribed.

c. Lost or Mutilated Preferred Stock Certificate. If a Holder's Series I Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Series I Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, and of the ownership thereof reasonably satisfactory to the Corporation.

d. Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Certificate of Designation shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws thereof. All legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the "New York Courts"). The Corporation and each Holder hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. The Corporation and each Holder hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Certificate of Designation and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. The Corporation and each Holder hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Certificate of Designation or the transactions contemplated hereby. If the Corporation or any Holder shall commence an action or proceeding to enforce any provisions of this Certificate of Designation, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys' fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding.²

e. Waiver. Any waiver by the Corporation or a Holder of a breach of any provision of this Certificate of Designation shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Certificate of Designation or a waiver by any other Holders. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Certificate of Designation on one or more occasions shall not be considered a waiver or deprive that party (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Certificate of Designation on any other occasion. Any waiver by the Corporation or a Holder must be in writing.

f. Severability. If any provision of this Certificate of Designation is invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

² Note to Maslon: Is there a specific reason not to include this provision?

g. Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

h. Headings. The headings contained herein are for convenience only, do not constitute a part of this Certificate of Designation and shall not be deemed to limit or affect any of the provisions hereof.

i. Status of Converted or Redeemed Preferred Stock. Shares of Series I Preferred Stock may only be issued pursuant to the Dealer Manager Agreement. If any shares of Series I Preferred Stock shall be converted, redeemed or reacquired by the Corporation, such shares shall resume the status of authorized but unissued shares of Preferred Stock and shall no longer be designated as Series I Convertible Preferred Stock.

IN WITNESS WHEREOF, the undersigned have executed this Certificate of Designation this ____ day of [], 2022.

NAVIDEA BIOPHARMACEUTICALS, INC.

Name: Michael S. Rosol, Ph.D
Title: Chief Medical Officer

ANNEX A

NOTICE OF CONVERSION

(TO BE EXECUTED BY THE REGISTERED HOLDER IN ORDER TO CONVERT SHARES OF PREFERRED STOCK)

The undersigned hereby elects to convert the number of shares of Series I Convertible Preferred Stock indicated below into shares of common stock, par value \$0.001 per share (the “Common Stock”), of Navidea Biopharmaceuticals, Inc., a Delaware corporation (the “Corporation”), according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as may be required by the Corporation in accordance with the Dealer Manager Agreement. No fee will be charged to the Holders for any conversion, except for any such transfer taxes.

Conversion calculations:

Date to Effect Conversion: _____

Number of shares of Series I Preferred Stock owned prior to Conversion: _____

Number of shares of Series I Preferred Stock to be Converted: _____

Stated Value of shares of Series I Preferred Stock to be Converted: _____

Number of shares of Common Stock to be Issued: _____

Applicable Conversion Price: _____

Number of shares of Series I Preferred Stock subsequent to Conversion: _____

Address for Delivery: _____

or

DWAC Instructions:

Broker no: _____

Account no: _____

[HOLDER]

By:

Name:

Title:

NAVIDEA BIOPHARMACEUTICALS, INC.
Warrant To Purchase Common Stock

Warrant Shares: _____

Initial Exercise Date: _____, 2022

THIS WARRANT TO PURCHASE COMMON STOCK (the “Warrant”) certifies that, for value received, _____ or its assigns (the “Holder”), is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the “Initial Exercise Date”) and on or prior to 5:00 p.m. (Eastern Time) on _____, 2027¹ (the “Termination Date”) but not thereafter, to subscribe for and purchase from Navidea Biopharmaceuticals, Inc., a Delaware corporation (the “Company”), up to _____ shares (as subject to adjustment hereunder, the “Warrant Shares”) of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b). This Warrant shall initially be issued and maintained in the form of a security held in book-entry form and the Depository Trust Company or its nominee (“DTC”) shall initially be the sole registered holder of this Warrant, subject to Holder’s right to elect to receive a Warrant in certificated form pursuant to the terms of the Warrant Agency Agreement, in which case this sentence shall not apply. This Warrant is being issued in connection with the Company’s rights offering, pursuant to its Registration Statement (the “Offering”).

Section 1. Definitions. In addition to the terms defined elsewhere in this Warrant, the following terms have the meanings indicated in this Section 1:

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act.

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

¹ Insert the date that is the five-year anniversary of the Initial Exercise Date.

“Board of Directors” means the board of directors of the Company and any authorized committee thereof.

“Business Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States, or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

“Commission” means the U.S. Securities and Exchange Commission.

“Common Stock” means the common stock of the Company, par value \$0.001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or its subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant, or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Exempt Issuance” means the sale or issuance of (i) shares of Common Stock or options issued to employees or directors of the Company pursuant to a plan, agreement or arrangement approved by the Board of Directors; (ii) securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the initial issuance date of this Warrant, provided that such securities have not been amended since the initial issuance date of this Warrant to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations) or to extend the term of such securities; (iii) shares of Common Stock, options or convertible securities issued as acquisition consideration pursuant to the acquisition of another entity by the Company by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, provided that such issuances are approved by the Board of Directors provided that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith until the 180th day after the initial issuance date of this Warrant, and provided that any such issuance shall only be to a Person (or to the equityholders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities; (iv) shares of Common Stock, options or convertible securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors provided that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith until the 180th day after the initial issuance date of this Warrant, and provided that any such issuance shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities; and (v) shares of Common Stock issued in connection with the issuance of bona fide commercial bank debt or equipment lease transactions, provided that such issuances are approved by the Board of Directors provided that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith until the 180th day after the initial issuance date of this Warrant.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof), or other entity of any kind.

“Registration Statement” means the Company’s Registration Statement on Form S-1, as amended (File No. 333-262691), including the prospectus dated [], 2022 included therein and forming a part thereof.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Trading Day” means a day on which the Common Stock is traded on a Trading Market.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, or the New York Stock Exchange (or any successors to any of the foregoing).

“Transfer Agent” means Continental Stock Transfer & Trust Company, LLC, the current transfer agent of the Company, with a mailing address of 1 State Street, 30th Floor, New York, NY 10004 and a telephone number of [], and any successor transfer agent of the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (Eastern time) to 4:00 p.m. (Eastern time)), (b) if the Common Stock is not then listed or quoted on a Trading Market but is then listed or quoted for trading on OTCQB or OTCQX, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted on a Trading Market and is not then listed or quoted for trading on OTCQB or OTCQX, and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by Company, the fees and expenses of which shall be paid by the Company.

“Warrant Agency Agreement” means that certain warrant agency agreement, dated on or about [] , 2022, between the Company and the Warrant Agent.

“Warrant Agent” means Continental Stock Transfer & Trust Company, LLC and any successor warrant agent of the Company.

“Warrants” means this Warrant and other Common Stock purchase warrants issued by the Company pursuant to the Registration Statement and in connection with the Offering.

Section 2. Exercise.

(a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form annexed hereto (the “Notice of Exercise”). Within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier’s check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation as soon as reasonably practicable of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice.

The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.

Notwithstanding the foregoing in this Section 2(a), a holder whose interest in this Warrant is a beneficial interest in certificate(s) representing this Warrant held in book-entry form through DTC (or another established clearing corporation performing similar functions), shall effect exercises made pursuant to this Section 2(a) by delivering to DTC (or such other clearing corporation, as applicable) the appropriate instruction form for exercise, complying with the procedures to effect exercise that are required by DTC (or such other clearing corporation, as applicable), subject to a Holder’s right to elect to receive a Warrant in certificated form pursuant to the terms of the Warrant Agency Agreement, in which case this sentence shall not apply.

(b) Exercise Price. The exercise price per share of Common Stock under this Warrant shall be \$ _____, subject to adjustment hereunder (the “Exercise Price”).

(c) Cashless Exercise. If, at the time of exercise hereof, there is no effective registration statement registering, or the prospectus contained therein is not available for, the issuance of the Warrant Shares to the Holder, then this Warrant may also be exercised, in whole or in part, at such time by means of a “cashless exercise” in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing $[(A-B) (X)]$ by (A), where:

(A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of “regular trading hours” (as defined in Rule 600(b) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder’s execution of the applicable Notice of Exercise if such Notice of Exercise is executed during “regular trading hours” on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of “regular trading hours” on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of “regular trading hours” on such Trading Day;

(B) = the Exercise Price of this Warrant, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

(d) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earliest of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise, (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company and (iii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the third Trading Day after the Warrant Share Delivery Date) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause its Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

i v. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. Warrants may be exercised only in whole numbers of Warrant Shares. No fractional Warrant Shares are to be issued upon the exercise of the Warrant, but rather the number of Warrant Shares to be issued shall be rounded down to the nearest whole number. If fewer than all of the Warrants evidenced by a Warrant Certificate are exercised and this Warrant is in certificated form, a new Warrant Certificate for the number of unexercised Warrants remaining shall be executed by the Company and countersigned by the Warrant Agent, and delivered to the Holder at the address specified on the books of the Warrant Agent or as otherwise specified by such Holder.

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

(e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within one Trading Day confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder may not increase the Beneficial Ownership Limitation provisions of this Section 2(e) without the prior written consent of the Company, which may be withheld in the sole discretion of the Company; it being understood that in no case shall the Beneficial Ownership Limitation exceed 9.99% of the number of shares of Common Stock outstanding after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the holder and the provisions of this Section 2(e) shall continue to apply; it being further understood that any increase in the Beneficial Ownership limitation will not be effective until the 61st day after written consent of the Company is provided to the Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

(f) Right of Redemption. Subject to the provisions of Section 2(e) and this Section 2(f), if, at any time at least one (1) year after the Initial Exercise Date, (i) the VWAP for each of 10 consecutive Trading Days (the “Measurement Period”), which 10 consecutive Trading Day period shall not have commenced until one (1) year after the Initial Exercise Date exceeds \$[_____]² (subject to adjustment for forward and reverse stock splits, recapitalizations, stock dividends and the like after the Initial Exercise Date) and (ii) the Holder is not in possession of any information that constitutes, or might constitute, material non-public information which was provided by the Company, any of its Subsidiaries, or any of their officers, directors, employees, agents or Affiliates, then the Company may, within 1 Trading Day of the end of such Measurement Period and at its sole option and in its sole discretion, redeem not less than all of the outstanding Warrants for which a Notice of Exercise has not yet been delivered (such right, a “Redemption Right”) for consideration equal to \$0.01 per Warrant Share (the “Redemption Price”). For the avoidance of any doubt, to the extent that the Company determines to exercise its Redemption Right pursuant to this Section 2(f), the Company shall be required to exercise its Redemption Right with respect to all of the other Warrants issued by the Company pursuant to the Registration Statement. To exercise the Redemption Right, the Company must deliver to all of the Holders an irrevocable written notice (a “Redemption Notice”) indicating therein the Company’s election to redeem all of the Warrants and setting forth a date for the redemption of such Warrants, which date shall be at least thirty (30) days after the date of the Redemption Notice (the “Redemption Date”). The Redemption Notice shall be mailed by first class mail, postage prepaid, by the Company to the Holders of the Warrants at their last addresses as they shall appear on the Warrant Register. Any Redemption Notice mailed in the manner herein provided shall be conclusively presumed to have been duly given on the date sent whether or not the Holder received such notice. The Warrants may be exercised in accordance with the terms herein at any time after the Redemption Notice shall have been given by the Company pursuant to this Section 2(f) hereof and prior to the Redemption Date. In furtherance thereof, the Company covenants and agrees that it will honor all Notices of Exercise with respect to Warrant Shares subject to a Redemption Notice that are tendered through 6:30 p.m. (New York City time) on the Redemption Date. Following the Redemption Date, the Holders of the Warrants shall have no further rights except to receive the Redemption Price upon surrender of the Warrants. Notwithstanding anything to the contrary set forth in this Warrant, the Company may not deliver a Redemption Notice or require the redemption of this Warrant (and any such Redemption Notice shall be void), unless, from the beginning of the Measurement Period through the Redemption Date, (1) the Company shall have honored in accordance with the terms of this Warrant all Notices of Exercise delivered by 6:30 p.m. (New York City time) on the Redemption Date, (2) a registration statement shall be effective as to all Warrant Shares and the prospectus and all relevant amendments and supplements thereunder available for use by the Company for the sale of all such Warrant Shares to the Holder, (3) the Common Stock shall be listed or quoted for trading on the Trading Market, (4) there is a sufficient number of authorized shares of Common Stock for issuance of all Warrant Shares, and (5) the issuance of all Warrant Shares subject to a Redemption Notice shall not cause a breach of any provision of Section 2(e) herein.

² Insert the price that is 300% of the exercise price

Section 3. Certain Adjustments.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

(b) Subsequent Rights Offerings. During such time as this Warrant is outstanding, in addition to any adjustments pursuant to Section 3(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities, or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

(c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement, or other similar transaction) (each a “Distribution”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

(d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person (other than for the purpose of changing the Company's name and/or the jurisdiction of incorporation of the Company or a holding company for the Company), (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a "Fundamental Transaction"), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) of Section 2(f) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) or Section 2(f) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any Successor Entity (as defined below) shall, at the Holder's option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction (or, if later, the date of the public announcement of the applicable Fundamental Transaction), purchase this Warrant from the Holder by paying to the Holder an amount of cash equal to the Black Scholes Value (as defined below) of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction; provided, however, that (i) if the Fundamental Transaction is not within the Company's control, including not approved by the Company's Board of Directors, Holder shall only be entitled to receive from the Company or any Successor Entity, as of the date of consummation of such Fundamental Transaction, the same type or form of consideration (and in the same proportion) for the purchase of this Warrant, at the value per share of Common Stock in the Fundamental Transaction for each Warrant Share underlying the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Fundamental Transaction, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Fundamental Transaction; and (ii) for purposes of clarification, Holder shall not be required to exercise the Warrant or pay the exercise price thereof in order to receive such consideration. "Black Scholes Value" means the value of this Warrant based on the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date, (B) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg (determined utilizing a 365 day annualization factor) as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction, (C) the underlying price per share used in such calculation shall be the greater of (i) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction and (ii) the greater of (x) the last VWAP immediately prior to the public announcement of such Fundamental Transaction and (y) the last VWAP immediately prior to the consummation of such Fundamental Transaction and (D) a remaining option time equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date. The payment of the Black Scholes Value will be made by wire transfer of immediately available funds within five Trading Days of the Holder's election (or, if later, on the effective date of the Fundamental Transaction). The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Company under this Warrant accordance with the provisions of this Section 3(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

(e) Subsequent Equity Sales. If, at any time after the Initial Exercise Date until the two (2) year anniversary of the Initial Exercise Date, the Company or any subsidiary thereof, as applicable, at any time while this Warrant is outstanding, sells or grants any option to purchase, or sells or grants any right to reprice, or otherwise disposes of or issues (or announces any offer, sale, grant or any option to purchase or other disposition) any Common Stock or Common Stock Equivalents entitling any Person to acquire shares of Common Stock at an effective price per share that is lower than the Exercise Price then in effect (such lower price, the “Base Share Price” and such issuances, collectively, a “Dilutive Issuance”) (it being understood and agreed that if the holder of the Common Stock or Common Stock Equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive shares of Common Stock at an effective price per share that is lower than the Exercise Price, such issuance shall be deemed to have occurred for less than the Exercise Price on such date of the Dilutive Issuance at such effective price), then simultaneously with the consummation (or, if earlier, the announcement) of each Dilutive Issuance the Exercise Price shall be reduced and only reduced to equal the Base Share Price, provided that the Base Share Price shall not be less than \$[]³ (subject to adjustment for reverse and forward stock splits, recapitalizations and similar transactions following the date of the initial issuance date of this Warrant). Notwithstanding the foregoing, no adjustment will be made under this Section 3(e) in respect of an Exempt Issuance. The Company shall notify the Holder in writing, no later than the Trading Day following the issuance or deemed issuance of any Common Stock or Common Stock Equivalents subject to this Section 3(e), indicating therein the applicable issuance price, or applicable reset price, exchange price, conversion price or exercise price and other pricing terms (such notice, the “Dilutive Issuance Notice”). For purposes of clarification, whether or not the Company provides a Dilutive Issuance Notice pursuant to this Section 3(e), upon the occurrence of any Dilutive Issuance, the Holder is entitled to receive a number of Warrant Shares based upon the Base Share Price on or after the date of such Dilutive Issuance, regardless of whether a Holder accurately refers to the Base Share Price in the Notice of Exercise. If the Company enters into a Variable Rate Transaction, the Company shall be deemed to have issued Common Stock or Common Stock Equivalents at the lowest possible price, conversion price or exercise price at which such securities may be issued, converted or exercised.

³ Greater of (i) \$0.15 and (ii) 30% of the closing bid price of the Common Stock on the date prior to the execution of the Dealer Manager Agreement.

(f) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

(g) Notice to Holder.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of its subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

(a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

(b) New Warrants. If this Warrant is not held in global form through DTC (or any successor depository), this Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

(c) Warrant Register. The Warrant Agent shall register this Warrant, upon records to be maintained by the Warrant Agent for that purpose (the “Warrant Register”), in the name of the record Holder hereof from time to time. The Company and the Warrant Agent may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

(a) No Rights as Stockholder Until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof except as expressly set forth in Section 3. Without limiting any rights of a Holder to receive Warrant Shares on a “cashless exercise” pursuant to Section 2(c) or to receive cash payments pursuant to Section 2(d)(i) and Section 2(d)(iv) herein, in no event shall the Company be required to net cash settle an exercise of this Warrant.

(b) Loss, Theft, Destruction, or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it that any Warrant is lost, stolen, mutilated, or destroyed, the Company and the Warrant Agent may on such terms as to indemnity (including obtaining an open penalty bond protecting the Warrant Agent) or otherwise as they may in their discretion impose (which shall, in the case of a mutilated Warrant, include the surrender thereof), issue a new Warrant of like denomination, tenor, and date as the Warrant so lost, stolen, mutilated, or destroyed. Any such new Warrant shall constitute a substitute contractual obligation of the Company, whether or not the allegedly lost, stolen, mutilated, or destroyed Warrant shall be at any time enforceable by anyone.

(c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then such action may be taken or such right may be exercised on the next succeeding Business Day.

(d) Authorized Shares. The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(c) Governing Law. All questions concerning the construction, validity, enforcement, and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Warrant (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees, or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Warrant and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant or otherwise adjudicate any claim or claims arising out of this Warrant, the non-prevailing party in such action, suit or proceeding shall pay, in addition to all other remedies to which the prevailing party may be entitled, the costs and expenses incurred by the prevailing party in connection with the investigation, preparation and prosecution of such action, suit or proceeding, including the prevailing party's reasonable attorneys' fees.

(f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, will have restrictions upon resale imposed by state and federal securities laws.

(g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of either party hereto shall operate as a waiver of such right or otherwise prejudice such party's rights, powers or remedies. Without limiting any other provision of this Warrant, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damage to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

(h) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Exercise, shall be in writing and delivered personally, by facsimile or e-mail, or sent by a nationally recognized overnight courier service, addressed to each of (1) the Company, at 4995 Bradenton Avenue, Suite 240, Dublin, Ohio 43017, Attention: [], email address: [].com or to any such address the Company may specify for such purposes by notice to the Holders, and (2) the Warrant Agent, at 1 State Street, 30th Floor, New York, New York 10004, Attention:[]. Any and all notices or other communications or deliveries to be provided by the Company hereunder shall be in writing and delivered personally, by e-mail, or sent by a nationally recognized overnight courier service addressed to each Holder at the e-mail address or address of such Holder appearing on the books of the Company. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the time of transmission, if such notice or communication is delivered via e-mail at the e-mail address set forth in this Section prior to 5:30 p.m. (Eastern time) on any date, (ii) the next Trading Day after the time of transmission, if such notice or communication is delivered via e-mail at the e-mail address set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (Eastern time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (iv) upon actual receipt by the party to whom such notice is required to be given. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

(i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

(j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

(k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

(l) Amendment and Waiver. Except as otherwise provided herein, this Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company, on the one hand, and the Holder or the beneficial owner of this Warrant, on the other hand. Section 3(e) of this Warrant may be amended and the observance of Section 3(e) may be waived (either generally or in a particular instance) with the written consent of the Company and the Holders representing a majority-in-interest of the Warrants Shares underlying the Warrants issued pursuant to the Registration Statement and in connection with the Offering.

(m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(o) Warrant Agency Agreement. If this Warrant is held in global form through DTC (or any successor depository), this Warrant is issued subject to the Warrant Agency Agreement. To the extent any provision of this Warrant conflicts with the express provisions of the Warrant Agency Agreement, the provisions of this Warrant shall govern and be controlling.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

NAVIDEA BIOPHARMACEUTICALS, INC.

By: _____

Michael S. Rosol, Ph.D
Chief Medical Officer

NOTICE OF EXERCISE

TO:

Navidea Biopharmaceuticals, Inc.
4995 Bradenton Avenue, Suite 240
Dublin, Ohio 43017
Attn:
Email address:

Continental Stock Transfer & Trust Company, LLC
1 State Street, 30th Floor
New York, New York 10004
Attn:

1. The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any. Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

2. Payment shall take the form of (check applicable box):

☐ lawful money of the United States (Cash Exercise).

☐ if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

3. Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

[SIGNATURE OF HOLDER]

Name of Investing Entity:

Signature of Authorized Signatory of Investing Entity:

Name of Authorized Signatory:

Title of Authorized Signatory:

Date:

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to:

Name:

(Please Print)

Address:

(Please Print)

Phone Number:

Email Address:

Dated: _____, _____

Holder's Signature:

Holder's Address:

WARRANT AGENCY AGREEMENT

WARRANT AGENCY AGREEMENT, dated as of July , 2022 ("Agreement"), by and between Navidea Biopharmaceuticals, Inc., a Delaware corporation (the "Company"), and Continental Stock Transfer & Trust Company, a New York corporation (the "Warrant Agent").

WHEREAS, the Company is engaged in a public rights offering (the "Offering") pursuant to which the Company has distributed, at no charge, non-transferable subscription rights to purchase units (the "Units") to each of the Company's holders of common stock (the "Common Stock"), holders of warrants issued to the underwriter in the Company's public offering in 2019 (the "Underwriter Warrants"), holders of Series D redeemable convertible preferred stock and holders of Series F redeemable convertible preferred stock;

WHEREAS, the Units consist of shares of Series I convertible preferred stock (the "Series I Preferred Stock") and warrants (collectively, the "Warrants") to purchase shares of Common Stock, and the Company wishes to issue the Warrants in book entry form entitling the respective holders of the Warrants to purchase an aggregate of up to [] shares of Common Stock upon the terms and subject to the conditions hereinafter set forth;

WHEREAS, the Series I Preferred Stock and Warrants to be issued in connection with the Offering will be immediately separable and will be issued separately, but will be purchased together in the Offering;

WHEREAS, the Offering is being made pursuant to an effective registration statement on Form S-1 (File No. 333-262691) (the "Registration Statement"); and

WHEREAS, the Company wishes the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing so to act, in connection with the issuance, registration, transfer, exchange, exercise and replacement of the Warrants and, in the Warrant Agent's capacity as the Company's transfer agent, the delivery of the Warrant Shares (as defined below).

NOW, THEREFORE, in consideration of the premises and the mutual agreements herein set forth, the parties hereby agree as follows:

Section 1. Certain Definitions. For purposes of this Agreement, the following terms have the meanings indicated:

"Business Day" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

"Close of Business" on any given date means 5:00 p.m., New York City time, on such date; provided, however, that if such date is not a Business Day it means 5:00 p.m., New York City time, on the next succeeding Business Day.

"Person" means an individual, corporation, association, partnership, limited liability company, joint venture, trust, unincorporated organization, government or political subdivision thereof or governmental agency or other entity.

"Warrant Certificate" means a certificate issued to a Holder (as defined below), representing such number of Warrant Shares as is indicated therein in the form of Exhibit 1 to this Agreement.

"Warrant Shares" means the shares of Common Stock underlying the Warrants and issuable upon exercise of the Warrants.

All other capitalized terms used but not otherwise defined herein shall have the meaning ascribed to such terms in the Warrant.

Section 2. Appointment of Warrant Agent. The Company hereby appoints the Warrant Agent to act as agent for the Company in accordance with the express terms and conditions hereof, and the Warrant Agent hereby accepts such appointment.

Section 3. Global Warrants.

(a) The Warrants shall be initially issuable in book-entry form. Unless otherwise instructed by the Company, all of the Warrants shall initially be represented by one or more book-entry form Warrants (the “Global Warrants”) deposited with the Warrant Agent and registered in the name of Cede & Co., a nominee of The Depository Trust Company (the “Depository”), or as otherwise directed by the Depository. Ownership of beneficial interests in the Warrants shall be shown on, and the transfer of such ownership shall be effected through, records maintained by (i) the Depository or its nominee for each Global Warrant or (ii) institutions that have accounts with the Depository (such institution, with respect to a Warrant in its account, a “Participant”).

(b) If the Depository subsequently ceases to make its book-entry settlement system available for the Warrants, the Company may instruct the Warrant Agent in writing regarding other arrangements for book-entry settlement. In the event that the Warrants are not eligible for, or it is no longer necessary to have the Warrants available in, book-entry form, the Warrant Agent shall provide written instructions to the Depository to deliver to the Warrant Agent for cancellation each Global Warrant, and the Company shall instruct the Warrant Agent in writing to deliver to each Holder a Warrant Certificate.

(c) A Holder has the right to elect at any time or from time to time a Warrant Exchange (as defined below) pursuant to a Warrant Certificate Request Notice (as defined below). Upon written notice by a Holder to the Warrant Agent for the exchange of some or all of such Holder’s Global Warrants for a Warrant Certificate evidencing the same number of Warrants, which request shall be in the form attached hereto as Annex A (a “Warrant Certificate Request Notice”) and the date of delivery of such Warrant Certificate Request Notice by the Holder, the “Warrant Certificate Request Notice Date” and the deemed surrender upon delivery by the Holder of a number of Global Warrants for the same number of Warrants evidenced by a Warrant Certificate, a “Warrant Exchange”), the Warrant Agent shall promptly effect the Warrant Exchange and shall promptly issue and deliver to the Holder a Warrant Certificate for such number of Warrants in the name set forth in the Warrant Certificate Request Notice. Such Warrant Certificate shall be dated the original issue date of the Warrants and shall be executed by an authorized signatory of the Company. In connection with a Warrant Exchange, the Company agrees to deliver, or to direct the Warrant Agent to deliver, the Warrant Certificate to the Holder within three (3) Business Days of the Warrant Certificate Request Notice pursuant to the delivery instructions in the Warrant Certificate Request Notice (“Warrant Certificate Delivery Date”). The Company covenants and agrees that, upon the date of delivery of the Warrant Certificate Request Notice, the Holder shall be deemed to be the holder of the Warrant Certificate and, notwithstanding anything to the contrary set forth herein, the Warrant Certificate shall be deemed for all purposes to contain all of the terms and conditions of the Warrants evidenced by such Warrant Certificate and the terms of this Agreement (other than Section 3(c), which shall not apply to the Warrants evidenced by a Warrant Certificate).

Section 4. Form of Warrant. The Warrants, together with the form of election to purchase Common Stock (the “Exercise Notice”) and the form of assignment to be printed on the reverse thereof, whether a Warrant Certificate or a Global Warrant, shall be substantially in the form of Exhibit 1 hereto.

Section 5. Countersignature and Registration. The Warrant Certificates shall be executed on behalf of the Company by its Chief Executive Officer, Chief Financial Officer, Secretary or other principal officer of the Company, either manually or by facsimile signature. The Warrant Certificates shall be countersigned by the Warrant Agent either manually or by facsimile signature and shall not be valid for any purpose unless so countersigned. In case any officer of the Company who shall have signed a Warrant Certificate shall cease to be such officer of the Company before countersignature by the Warrant Agent and issuance and delivery by the Company, such Warrant Certificate, nevertheless, may be countersigned by the Warrant Agent, issued and delivered with the same force and effect as though the person who signed such Warrant Certificate had not ceased to be such officer of the Company; and any Warrant Certificate may be signed on behalf of the Company by any person who, at the actual date of the execution of such Warrant Certificate, shall be a proper officer of the Company to sign such Warrant Certificate, although at the date of the execution of this Agreement any such person was not such an officer.

The Warrant Agent will keep or cause to be kept, at one of its offices, or at the office of one of its agents, books for registration of original issuance and the registration of transfer of the Warrants issued hereunder (the “Warrant Register”). Such books shall show the names and addresses of the respective holders of the Warrants (the “Holders” which term shall include transferees, successors and assignees under the terms hereunder and, if the Warrants are held in “street name,” a Participant), the number of Warrant Shares evidenced by each Global Warrant or on the face of each Warrant Certificate and the date of each of such Warrant Certificate or Global Warrant. Any Person in whose name ownership of a beneficial interest in the Warrants evidenced by a Global Warrant is recorded in the records maintained by the Depository or its nominee shall be deemed the “beneficial owner” thereof, provided that all such beneficial interests shall be held through a Participant, which shall be the registered holder of such Warrants.

Prior to due presentment for registration of transfer of any Warrant Certificate, the Warrant Agent may deem and treat the Person in whose name that Warrant shall be registered on the Warrant Register as the absolute owner of such Warrant for purposes of any exercise thereof, and for all other purposes. The Warrant Agent shall not be affected by any notice to the contrary. Notwithstanding the foregoing, nothing herein shall prevent the Warrant Agent or any agent of the Warrant Agent from giving effect to any written certification, proxy or other authorization furnished by the Depository governing the exercise of the rights of a holder of a beneficial interest in any Warrant. The rights of beneficial owners in a Warrant evidenced by the Global Warrant shall be exercised by the Holder or a Participant through the Depository's system, except to the extent expressly set forth herein.

Section 6. Transfer, Split Up, Combination and Exchange of Warrant Certificates; Mutilated, Destroyed, Lost or Stolen Warrant Certificates Subject to the provisions of the Warrant and the last sentence of this first paragraph of Section 6 and subject to applicable law, rules or regulations, or any "stop transfer" instructions the Company may give to the Warrant Agent in writing, at any time after the closing date of the Offering, and at or prior to the Close of Business on the Termination Date, any Warrant Certificate or Warrant Certificates may be transferred, split up, combined or exchanged for another Warrant Certificate or Warrant Certificates, entitling the Holder to purchase a like number of shares of Common Stock as the Warrant Certificate or Warrant Certificates surrendered then entitled such Holder to purchase. Any Holder desiring to transfer, split up, combine or exchange any Warrant Certificate shall make such request in writing delivered to the Warrant Agent, and shall surrender the Warrant Certificate or Warrant Certificates to be transferred, split up, combined or exchanged at the office of the Warrant Agent designated for such purposes. Any requested transfer of Warrants represented by a Warrant Certificate, shall be accompanied by reasonable evidence of authority of the party making such request that may be required by the Warrant Agent including but not limited to, the signature guarantee of a guarantor institution which is a participant in a signature guarantee program approved by the Securities Transfer Association. Thereupon the Warrant Agent shall, subject to the last sentence of this first paragraph of Section 6, countersign and deliver to the Person entitled thereto any Warrant Certificate as so requested. The Company may require payment from the Holder of a sum sufficient to cover any tax or governmental charge that may be imposed in connection with any transfer, split up, combination or exchange of Warrants. The Warrant Agent shall not have any duty or obligation to take any action under any section of this Agreement that requires the payment of taxes and/or charges unless and until it is satisfied that all such payments have been made.

Upon receipt by the Warrant Agent of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of a Warrant Certificate, which evidence shall include an affidavit of loss, or in the case of mutilated certificates, the certificate or portion thereof remaining, and, in case of loss, theft or destruction, of indemnity in customary form and amount satisfactory to the Warrant Agent, and satisfaction of any other reasonable requirements established by established by Section 8-405 of the Uniform Commercial Code as in effect in the State of Delaware, and reimbursement to the Company and the Warrant Agent of all reasonable expenses incidental thereto, and upon surrender to the Warrant Agent and cancellation of the Warrant Certificate if mutilated, the Company will make and deliver a new Warrant Certificate of like tenor to the Warrant Agent for delivery to the Holder in lieu of the Warrant Certificate so lost, stolen, destroyed or mutilated. Notwithstanding anything herein to the contrary, in connection with a Warrant in book entry or electronic form held through the Depository, no posting of a bond shall be required under this Section 6.

Section 7. Exercise of Warrants; Exercise Price; Termination Date

(a) The Warrants shall be exercisable commencing on the Initial Exercise Date. The Warrants shall cease to be exercisable and shall terminate and become void, and all rights thereunder and under this Agreement shall cease, at or prior to the Close of Business on the Termination Date. Subject to the foregoing and to Section 7(b) below, the Holder of a Warrant may exercise the Warrant in whole or in part upon providing the items required by Section 7(c) below to the Warrant Agent at the office of the Warrant Agent designated for such purposes or to the office of one of its agents as may be designated by the Warrant Agent from time to time. In the case of the Holder of a Warrant Certificate, the Holder shall deliver the executed Exercise Notice and payment of the Exercise Price pursuant to Section 2(a) of the Warrant. Notwithstanding any other provision in this Agreement, a holder whose interest in a Global Warrant is a beneficial interest in a Global Warrant held in book-entry form through the Depository (or another established clearing corporation performing similar functions and subject to registration under the Securities Exchange Act of 1934, as amended), shall effect exercises by delivering to the Depository (or such other clearing corporation, as applicable) the appropriate instruction form for exercise, complying with the procedures to effect exercise that are required by the Depository (or such other clearing corporation, as applicable). The Company acknowledges that the bank accounts maintained by the Warrant Agent in connection with the services provided under this Agreement will be in the Warrant Agent's name, as agent for the Company, and that the Warrant Agent may receive investment earnings in connection with the investment at Warrant Agent risk and for its benefit of funds held in those accounts from time to time. The Warrant Agent shall not be obligated to pay such earnings to the Company or the Holders.

(b) Upon receipt of an Exercise Notice for a cashless exercise pursuant to Section 2(c) of the Warrant (each, a ‘Cashless Exercise’), the Warrant Agent will promptly notify the Company and the Company will promptly calculate and transmit to the Warrant Agent the number of Warrant Shares issuable in connection with such Cashless Exercise and deliver a copy of the Exercise Notice to the Warrant Agent, which shall issue such number of Warrant Shares in connection with such Cashless Exercise.

(c) Upon the exercise of the Warrant Certificate pursuant to the terms of Section 2 of the Warrant Certificate, accompanied by such other documentation as the Warrant Agent may reasonably request, the Warrant Agent shall cause the Warrant Shares underlying such Warrant Certificate or Global Warrant to be delivered to or upon the order of the Holder of such Warrant Certificate or Global Warrant, registered in such name or names as may be designated by such Holder, no later than the Warrant Share Delivery Date (as such term is defined in the Warrant Certificate). If the Company is then a participant in the DWAC system of the Depository and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by Holder or (B) the Warrant is being exercised via Cashless Exercise, then the certificates for Warrant Shares shall be transmitted by the Warrant Agent to the Holder by crediting the account of the Holder’s broker with the Depository through its DWAC system. For the avoidance of doubt, if the Company becomes obligated to pay any amounts to any Holders pursuant to Section 2(d)(i) of the Warrant Certificate, such obligation shall be solely that of the Company and not that of the Warrant Agent. Notwithstanding anything else to the contrary in this Agreement, except in the case of a Cashless Exercise, if any Holder fails to duly deliver payment to the Warrant Agent of an amount equal to the aggregate Exercise Price of the Warrant Shares to be purchased upon exercise of such Holder’s Warrant as set forth in Section 7(a) hereof by the Warrant Share Delivery Date, the Warrant Agent will not be obligated to deliver such Warrant Shares (via DWAC or otherwise) until following receipt of such payment, and the applicable Warrant Share Delivery Date shall be deemed extended by one day for each day (or part thereof) until such payment is delivered to the Warrant Agent. For purposes of clarity, the Company and Warrant Agent acknowledge and agree that, with respect to the terms of the Warrants, the Warrant Certificate or Global Warrant shall set forth the terms of the Warrants and, in the event of any conflict between the Warrant Certificate or the Global Warrant and this Agreement, the Warrant Certificate or the Global Warrant shall control.

(d) The Warrant Agent shall deposit all funds received by it in payment of the Exercise Price for all Warrants in the account of the Company maintained with the Warrant Agent for such purpose and shall advise the Company via telephone at the end of each day on which funds for the exercise of any Warrant are received of the amount so deposited to its account. The Warrant Agent shall promptly confirm such telephonic advice to the Company in writing. The Warrant Agent shall provide to the Company a weekly written report all funds received by it in payment of the Exercise Price.

(e) In case the Holder of any Warrant Certificate exercises fewer than all Warrants evidenced thereby and surrenders such Warrant Certificate in connection with such partial exercise, a new Warrant Certificate evidencing the number of Warrant Shares equivalent to the number of Warrant Shares remaining unexercised may be issued by the Warrant Agent to the Holder of such Warrant Certificate or to his duly authorized assigns in accordance with Section 2(d)(ii) of the Warrant, subject to the provisions of Section 6 hereof.

Section 8. Cancellation and Destruction of Warrant Certificates. All Warrant Certificates surrendered for the purpose of exercise, transfer, split up, combination or exchange shall, if surrendered to the Company or to any of its agents, be delivered to the Warrant Agent for cancellation or in canceled form, or, if surrendered to the Warrant Agent, shall be canceled by it, and no Warrant Certificates shall be issued in lieu thereof except as expressly permitted by any of the provisions of this Agreement or the Warrants. The Company shall deliver to the Warrant Agent for cancellation and retirement, and the Warrant Agent shall so cancel and retire, any other Warrant Certificate purchased or acquired by the Company otherwise than upon the exercise thereof. The Warrant Agent shall deliver all canceled Warrant Certificates to the Company, or shall, at the written request of the Company, destroy such canceled Warrant Certificates, and in such case shall deliver a certificate of destruction thereof to the Company, subject to any applicable law, rule or regulation requiring the Warrant Agent to retain such canceled certificates.

Section 9. Certain Representations of the Company.

(a) This Agreement has been duly authorized, executed and delivered by the Company and, assuming due authorization, execution and delivery hereof by the Warrant Agent, constitutes a valid and legally binding obligation of the Company enforceable against the Company in accordance with its terms, and the Warrants have been duly authorized, executed and issued by the Company and, assuming due registration thereof by the Warrant Agent pursuant hereto and payment therefor by the Holders as provided in the Registration Statement, constitute valid and legally binding obligations of the Company enforceable against the Company in accordance with their terms and entitled to the benefits thereof; in each case except as enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally or by general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law).

(b) The Company covenants and agrees that it will cause to be reserved and kept available out of its authorized and unissued shares of Common Stock or its authorized and issued shares of Common Stock held in its treasury, free from preemptive rights, the number of shares of Common Stock that will be sufficient to permit the exercise in full of all outstanding Warrants.

Section 10. Common Stock Record Date. Each Holder shall be deemed to have become the holder of record for the Warrant Shares pursuant to Section 2(d)(i) of the Warrants.

Section 11. Adjustment of Exercise Price, Number of Shares of Common Stock or Number of the Company Warrants. The Exercise Price, the number of shares covered by each Warrant and the number of Warrants outstanding are subject to adjustment from time to time as provided in Section 3 of the Warrant ("Adjustment Events"). In the event that at any time, as a result of an adjustment made pursuant to Section 3 of the Warrant, the Holder of any Warrant thereafter exercised shall become entitled to receive any shares of capital stock of the Company other than shares of Common Stock, thereafter the number of such other shares so receivable upon exercise of any Warrant shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the shares contained in Section 3 of the Warrant, and the provisions of Sections 7, 9 and 13 of this Agreement with respect to the shares of Common Stock shall apply on like terms to any such other shares. All Warrants originally issued by the Company subsequent to any adjustment made to the Exercise Price pursuant to the Warrant shall evidence the right to purchase, at the adjusted Exercise Price, the number of shares of Common Stock purchasable from time to time hereunder upon exercise of the Warrants, all subject to further adjustment as provided herein. The Company hereby agrees that it will provide the Warrant Agent with reasonable notice of Adjustment Events.

Section 12. Certification of Adjusted Exercise Price or Number of Shares of Common Stock. Whenever the Exercise Price or the number of shares of Common Stock issuable upon the exercise of each Warrant is adjusted as provided in Section 11 or 13, the Company shall (a) promptly prepare a certificate setting forth the Exercise Price of each Warrant as so adjusted, and a brief, detailed statement of the facts accounting for such adjustment, and (b) promptly file with the Warrant Agent and with each transfer agent for the Common Stock a copy of such certificate. The Company may instruct the Warrant Agent to send a notice including such brief, detailed statement of the facts accounting for the adjustment and a brief summary of any new or amended exercise terms to each Holder of a Warrant. If the Company requests the Warrant Agent to send such notices, it shall provide the Warrant Agent with a draft notice to be used for this purpose. The Warrant Agent shall be fully protected in relying on any such certificate and on any adjustment or statement therein contained and shall have no duty or liability with respect to, and shall not be deemed to have knowledge of any such adjustment or any such event unless and until it shall have received such certificate.

Section 13. Fractional Shares of Common Stock.

(a) The Company shall not issue Warrants representing fractional shares or distribute a Global Warrant or Warrant Certificate that evidences fractional shares. Whenever any Warrant representing fractional shares would otherwise be required to be issued or distributed, the actual issuance or distribution shall reflect a rounding of such fraction in accordance with Section 2(d)(iv) of the Warrant.

(b) The Company shall not issue fractions of shares of Common Stock upon exercise of Warrants or distribute stock certificates that evidence fractional shares of Common Stock. Whenever any fraction of a share of Common Stock would otherwise be required to be issued or distributed, the actual issuance or distribution in respect thereof shall be made in accordance with Section 2(d)(iv) of the Warrant.

Section 14. Conditions of the Warrant Agent's Obligations. The Warrant Agent accepts its obligations herein set forth upon the express terms and conditions hereof, including the following to all of which the Company agrees and to all of which the rights hereunder of the Holders from time to time of the Warrant shall be subject:

(a) Compensation and Indemnification. The Company agrees promptly to pay the Warrant Agent the compensation in accordance with a fee schedule to be mutually agreed upon for all services rendered by the Warrant Agent and to reimburse the Warrant Agent for reasonable out-of-pocket expenses (including reasonable counsel fees) incurred in the exercise and performance of its duties hereunder. The Company covenants and agrees to indemnify and to hold the Warrant Agent harmless against, any and all loss, liability, damage, judgment, fine, penalty, claim, demand, settlement, cost or expense (including, without limitation, the reasonable fees and expenses of legal counsel) that may be paid, incurred or suffered by it, or which it may become subject, without gross negligence, bad faith or willful misconduct on the part of the Warrant Agent (which gross negligence, bad faith, or willful misconduct must be determined by a final, non-appealable judgment of a court of competent jurisdiction), for any action taken, suffered, or omitted to be taken by the Warrant Agent in connection with the exercise and performance of its duties under this Agreement, including the costs and expenses of defending against any claim of liability arising therefrom, directly or indirectly. This paragraph shall survive the termination of this Agreement and the resignation or removal of the Warrant Agent.

(b) Agent for the Company. In acting under this Agreement and in connection with the Warrant Certificates, the Warrant Agent is acting solely as agent of the Company and does not assume any obligations or relationship of agency or trust for or with any of the Holders of Warrant Certificates or beneficial owners of Warrants.

(c) Counsel. The Warrant Agent may consult with counsel satisfactory to it, which may include counsel for the Company, and the advice or opinion of such counsel shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder in the absence of bad faith and in accordance with the advice or opinion of such counsel.

(d) Documents. The Warrant Agent shall be protected and shall incur no liability for or in respect of any action taken or omitted by it in reliance upon any Warrant Certificate, notice, direction, consent, certificate, affidavit, statement or other paper or document reasonably believed by it to be genuine and to have been presented or signed by the proper parties.

(e) Certain Transactions. The Warrant Agent, and its officers, directors and employees, may become the owner of, or acquire any interest in, the Warrants, with the same rights that it or they would have if it were not the Warrant Agent hereunder, and, to the extent permitted by applicable law, it or they may engage or be interested in any financial or other transaction with the Company and may act on, or as depository, trustee or agent for, any committee or body of Holders of Warrants or other obligations of the Company as freely as if it were not the Warrant Agent hereunder. Nothing in this Agreement shall be deemed to prevent the Warrant Agent from acting as trustee under any indenture to which the Company is a party. Nothing herein shall preclude the Warrant Agent from acting in any other capacity for the Company or for any other legal entity.

(f) No Liability for Interest. Unless otherwise agreed with the Company, the Warrant Agent shall have no liability for interest on any monies at any time received by it pursuant to any of the provisions of this Agreement or of the Warrant Certificates.

(g) No Liability for Invalidity. The Warrant Agent shall have no liability with respect to any invalidity of this Agreement or any of the Warrant Certificates (except as to the Warrant Agent's countersignature thereon).

(h) No Responsibility for Representations. The Warrant Agent shall not be responsible for any of the recitals, statement of facts or representations herein or in the Warrant Certificates (except as to the Warrant Agent's countersignature thereon) or be required to verify the same, all of which are made solely by the Company.

(i) No Implied Obligations. The Warrant Agent shall be obligated to perform only such duties as are herein and in the Warrants specifically set forth and no implied duties or obligations shall be read into this Agreement or the Warrants against the Warrant Agent. The Warrant Agent shall not be under any obligation to take any action hereunder which may tend to involve it in any expense or liability, the payment of which within a reasonable time or adequate indemnification is not, in its reasonable opinion, assured to it. The Warrant Agent shall not be accountable or under any duty or responsibility for the use by the Company of any of the Warrants authenticated by the Warrant Agent and delivered by it to the Company pursuant to this Agreement or for the application by the Company of the proceeds of the Warrants. The Warrant Agent shall have no duty or responsibility in case of any default by the Company in the performance of its covenants or agreements contained herein or in the Warrants or in the case of the receipt of any written demand from a Holder of a Warrant with respect to such default, including, without limiting the generality of the foregoing, any duty or responsibility to initiate or attempt to initiate any proceedings at law.

Section 15. Purchase or Consolidation or Change of Name of Warrant Agent. Any Person into which the Warrant Agent or any successor Warrant Agent may be merged or with which it may be consolidated, or any Person resulting from any merger or consolidation to which the Warrant Agent or any successor Warrant Agent shall be party, or any Person succeeding to the corporate trust, stock transfer or shareholder services business of the Warrant Agent or any successor Warrant Agent, shall be the successor to the Warrant Agent under this Agreement without the execution or filing of any paper or any further act on the part of any of the parties hereto, provided that such corporation would be eligible for appointment as a successor Warrant Agent under the provisions of Section 17. In case at the time such successor Warrant Agent shall succeed to the agency created by this Agreement any of the Warrants shall have been countersigned but not delivered, any such successor Warrant Agent may adopt the countersignature of the predecessor Warrant Agent and deliver such Warrants so countersigned; and in case at that time any of the Warrants shall not have been countersigned, any successor Warrant Agent may countersign such Warrants either in the name of the predecessor Warrant Agent or in the name of the successor Warrant Agent; and in all such cases such Warrants shall have the full force provided in the Warrants and in this Agreement.

In case at any time the name of the Warrant Agent shall be changed and at such time any of the Warrants shall have been countersigned but not delivered, the Warrant Agent may adopt the countersignature under its prior name and deliver Warrants so countersigned; and in case at that time any of the Warrants shall not have been countersigned, the Warrant Agent may countersign such Warrants either in its prior name or in its changed name; and in all such cases such Warrants shall have the full force provided in the Warrants and in this Agreement.

Section 16. Duties of Warrant Agent. The Warrant Agent undertakes the duties and obligations imposed by this Agreement upon the following express terms and conditions, by all of which the Company, by its acceptance hereof, shall be bound:

(a) Whenever in the performance of its duties under this Agreement the Warrant Agent shall deem it necessary or desirable that any fact or matter be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a certificate signed by the Chief Executive Officer or Principal Financial Officer of the Company; and such certificate shall be full authentication to the Warrant Agent for any action taken or suffered by it under the provisions of this Agreement in reliance upon such certificate. The Warrant Agent shall not be liable and shall be indemnified by the Company for any action taken or omitted by the Warrant Agent in reliance upon any such Company certificate. The Warrant Agent shall not be held to have notice of any change of authority of any person until receipt of written notice thereof from the Company.

(b) Subject to Section 29, the Warrant Agent shall be liable hereunder only for its own gross negligence, bad faith or willful misconduct (which gross negligence, bad faith and willful misconduct must be determined by a final non-appealable judgment of a court of competent jurisdiction), or for a breach by it of this Agreement.

(c) The Warrant Agent shall not be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof (except the due execution hereof by the Warrant Agent) or in respect of the validity or execution of any Warrant (except its countersignature thereof); nor shall it be responsible for any breach by the Company of any covenant or condition contained in this Agreement or in any Warrant; nor shall it be responsible for the adjustment of the Exercise Price or the making of any change in the number of shares of Common Stock required under the provisions of Section 11 or 13 or responsible for the manner, method or amount of any such change or the ascertaining of the existence of facts that would require any such adjustment or change (but not limiting the Warrant Agent's duties herein set forth upon the exercise of Warrants evidenced by Warrant Certificates after actual notice of any adjustment of the Exercise Price); nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock to be issued pursuant to this Agreement or any Warrant or as to whether any shares of Common Stock will, when issued, be duly authorized, validly issued, fully paid and nonassessable.

(d) From time to time, the Chief Executive Officer or Principal Financial Officer of the Company may provide Warrant Agent with instructions concerning the services performed by the Warrant Agent hereunder. In addition, at any time Warrant Agent may apply to these officers for instruction, and may consult with legal counsel for Warrant Agent or Company with respect to any matter arising in connection with the services to be performed by the Warrant Agent under this Agreement. Warrant Agent and its agents and subcontractors shall not be liable and shall be indemnified by Company for any action taken or omitted by Warrant Agent in reliance upon any Company instructions or upon the advice or opinion of such counsel, provided Warrant Agent carries out such instructions or advice without gross negligence, bad faith or willful misconduct. Warrant Agent shall not be held to have notice of any change of authority of any person, until receipt of written notice thereof from Company.

(e) The Warrant Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself or by or through its attorney or agents, and the Warrant Agent shall not be answerable or accountable for any act, default, neglect or misconduct of any such attorney or agents or for any loss to the Company resulting from any such act, default, neglect or misconduct, provided reasonable care was exercised in the selection and continued employment thereof.

(f) The Warrant Agent shall forward funds received for Warrant exercises by the fifth Business Day of the following month after such funds are received by the Warrant Agent by wire transfer to an account designated by the Company.

(g) This Section 16 shall survive the termination of this Agreement and the resignation or removal of the Warrant Agent.

Section 17. Change of Warrant Agent. The Warrant Agent may resign and be discharged from its duties under this Agreement upon 60 days' notice in writing sent to the Company and, and in the event that the Warrant Agent or one of its affiliates is not also the transfer agent for the Common Stock, to each transfer agent of the Common Stock known to the Warrant Agent, and to the Holders of the Warrant Certificates. In the event the transfer agency relationship in effect between the Company and the Warrant Agent terminates, the Warrant Agent will be deemed to have resigned automatically and be discharged from its duties under this Agreement as of the effective date of such termination, and the Company shall be responsible for sending any required notice prescribed in this Section 17. The Company may remove the Warrant Agent or any successor Warrant Agent upon 30 days' notice in writing, sent to the Warrant Agent or successor Warrant Agent, as the case may be, and to each transfer agent of the Common Stock, and to the Holders of the Warrant Certificates. If the Warrant Agent shall resign or be removed or shall otherwise become incapable of acting, the Company shall appoint a successor to the Warrant Agent. If the Company shall fail to make such appointment within a period of 30 days after such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Warrant Agent or by the Holder of a Warrant Certificate (who shall, with such notice, submit his Warrant Certificate for inspection by the Company), then the Holder of any Warrant Certificate may apply to any court of competent jurisdiction for the appointment of a new Warrant Agent. Any successor Warrant Agent, whether appointed by the Company or by such a court, shall be an entity organized and doing business under the laws of the United States or of a state thereof, in good standing, which is authorized under such laws to exercise stock transfer powers and is subject to supervision or examination by federal or state authority and which has at the time of its appointment as Warrant Agent (along with its affiliates) a combined capital and surplus of at least \$50,000,000. After appointment, the successor Warrant Agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named as Warrant Agent without further act or deed; but the predecessor Warrant Agent shall deliver and transfer to the successor Warrant Agent any property at the time held by it hereunder, and execute and deliver any further assurance, conveyance, act or deed necessary for the purpose; provided, that, such predecessor Warrant Agent shall not be required to make any additional expenditure or assume any additional liability in connection with the foregoing. Not later than the effective date of any such appointment, the Company shall file notice thereof in writing with the predecessor Warrant Agent and each transfer agent of the Common Stock, and send a notice thereof in writing to the Holders of the Warrant Certificates. However, failure to give any notice provided for in this Section 17, or any defect therein, shall not affect the legality or validity of the resignation or removal of the Warrant Agent or the appointment of the successor Warrant Agent, as the case may be.

Section 18. Issuance of New Warrants. Notwithstanding any of the provisions of this Agreement or of the Warrants to the contrary, the Company may, at its option, issue a new Global Warrant or Warrant Certificates, if any, evidencing Warrants in such form as may be approved by its Board of Directors to reflect any adjustment or change in the Exercise Price per share and the number or kind or class of shares of stock or other securities or property purchasable under the Global Warrant or Warrant Certificate, if any, made in accordance with the provisions of this Agreement.

Section 19. Notices. Notices or demands authorized by this Agreement to be given or made (i) by the Warrant Agent or by the Holder of any Warrants to or on the Company, (ii) subject to the provisions of Section 17, by the Company or by the Holder of any Warrants to or on the Warrant Agent or (iii) by the Company or the Warrant Agent to the Holder of any Warrant, may be delivered personally, by facsimile, e-mail (except with respect to the Warrant Agent) or sent by a nationally recognized overnight courier service to each recipient at the facsimile number or address of such recipient appearing below or on the books of the Company or the Warrant Agent, as applicable, and shall be deemed given and effective on the earliest of (i) the time of transmission, if such notice or communication is delivered via facsimile (with confirmation) or e-mail at the facsimile number or e-mail address, as applicable, as provided in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Business Day after the time of transmission, if such notice or communication is delivered via facsimile (with confirmation) or e-mail at the facsimile number or e-mail as provided in this Section on a day that is not a Business Day or later than 5:30 p.m. (New York City time) on any Business Day, (iii) the first Business Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given.

(a) If to the Company, to:

Navidea Biopharmaceuticals, Inc.
4995 Bradenton Avenue, Suite 240
Dublin, Ohio 43017
Attention:
Facsimile number: []
E-mail address:

(b) If to the Warrant Agent, to:

Continental Stock Transfer & Trust Company
1 State Street Plaza, 30th Floor
New York, New York 10004
Attention:
Facsimile: 212-616-7615
E-mail address:

(c) If to the Holder of any Warrant, to the address, facsimile number or e-mail address of such Holder as shown on the registry books of the Company. Any notice required to be delivered by the Company to the Holder of any Warrant may be given by the Warrant Agent on behalf of the Company. Notwithstanding any other provision of this Agreement, where this Agreement provides for notice of any event to a Holder of any Warrant Certificate, for a Global Warrant, such notice shall be sufficiently given if given to the Depository (or its designee) pursuant to the procedures of the Depository or its designee.

Section 20. Supplements and Amendments. The Company and the Warrant Agent may from time to time supplement or amend this Agreement without the approval of any Holders of Warrants in order to cure any ambiguity, to correct or supplement any provision contained herein which may be defective or inconsistent with any other provisions herein, or to make any other provisions with regard to matters or questions arising hereunder which the Company and the Warrant Agent may deem necessary or desirable and which shall not adversely affect the interests of the Holders of the Warrants in any material respect.

Section 21. Successors. All covenants and provisions of this Agreement by or for the benefit of the Company or the Warrant Agent shall bind and inure to the benefit of their respective successors and assigns hereunder.

Section 22. Benefits of this Agreement. Nothing in this Agreement shall be construed to give any Person other than the Company, the Holders of Warrants and the Warrant Agent any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the Warrant Agent and the Holders of the Warrants.

Section 23. Governing Law. This Agreement and each Warrant issued hereunder shall be governed by, and construed in accordance with, the internal laws of the State of New York without giving effect to the conflicts of law principles thereof.

Section 24. Counterparts. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. A signature to this Agreement transmitted electronically shall have the same authority, effect, and enforceability as an original signature.

Section 25. Captions. The captions of the sections of this Agreement have been inserted for convenience only and shall not control or affect the meaning or construction of any of the provisions hereof.

Section 26. Information. The Company agrees to promptly provide to the Holders of the Warrants any information it provides to all holders of the Common Stock, except to the extent any such information is publicly available on the EDGAR system (or any successor thereof) of the Securities and Exchange Commission.

Section 27. Force Majeure. Notwithstanding anything to the contrary contained herein, Warrant Agent shall not be liable for any delays or failures in performance resulting from acts beyond its reasonable control including, without limitation, acts of God, terrorist acts, epidemics, pandemics, shortage of supply, breakdowns or malfunctions, interruptions or malfunction of computer facilities, or loss of data due to power failures or mechanical difficulties with information storage or retrieval systems, labor difficulties, war, or civil unrest, it being understood that the Warrant Agent shall use reasonable best efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances; provided, however, that this provision shall not affect or limit in any way the obligations of the Company under the Global Warrants or the Warrant Certificates.

Section 28. [Intentionally Omitted.]

Section 29. Consequential Damages. Neither party to this Agreement shall be liable to the other party for any consequential, indirect, special or incidental damages under any provisions of this Agreement or for any consequential, indirect, punitive, special or incidental damages arising out of any act or failure to act hereunder even if that party has been advised of or has foreseen the possibility of such damages.

Section 30. Confidentiality. The Warrant Agent and the Company agree that all books, records, information and data pertaining to the business of the other party, including inter alia, personal, non-public warrant holder information, which are exchanged or received pursuant to the negotiation or the carrying out of this Agreement including the fees for services set forth in the attached schedule shall remain confidential, and shall not be voluntarily disclosed to any other person, except as may be required by law, including, without limitation, pursuant to subpoenas from state or federal government authorities (e.g., in divorce and criminal actions). However, each party may disclose relevant aspects of the other party's confidential information to its officers, affiliates, agents, subcontractors and employees to the extent reasonably necessary to perform its duties and obligations under this Agreement and such disclosure is not prohibited by applicable law.

Section 31. Further Assurance. The Company shall perform, acknowledge and deliver or cause to be performed, acknowledged and delivered all such further and other acts, documents, instruments and assurances as may be reasonably required by the Warrant Agent for the carrying out or performing by the Warrant Agent of the provisions of this Agreement.

Section 32. Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated; provided, however, that if such excluded provision shall affect the rights, immunities, liabilities, duties or obligations of the Warrant Agent, the Warrant Agent shall be entitled to resign immediately upon written notice to the Company.

[Signature Page to Follows]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

NAVIDEA BIOPHARMACEUTICALS, INC.

By: _____
Name:
Title:

CONTINENTAL STOCK TRANSFER & TRUST COMPANY

By: _____
Name:
Title:

Annex A: Form of Warrant Certificate Request Notice

WARRANT CERTIFICATE REQUEST NOTICE

To: Continental Stock Transfer & Trust Company, as Warrant Agent for Navidea Biopharmaceuticals, Inc. (the "Company")

The undersigned Holder of Common Stock Purchase Warrants ("Warrants") in the form of Global Warrants issued by the Company hereby elects to receive a Warrant Certificate evidencing the Warrants held by the Holder as specified below:

1. Name of Holder of Warrants in form of Global Warrants: _____
2. Name of Holder in Warrant Certificate (if different from name of Holder of Warrants in form of Global Warrants): _____
3. Number of Warrants in name of Holder in form of Global Warrants: _____
4. Number of Warrants for which Warrant Certificate shall be issued: _____
5. Number of Warrants in name of Holder in form of Global Warrants after issuance of Warrant Certificate, if any: _____
6. Warrant Certificate shall be delivered to the following address:

The undersigned hereby acknowledges and agrees that, in connection with this Warrant Exchange and the issuance of the Warrant Certificate, the Holder is deemed to have surrendered the number of Warrant Shares in form of Global Warrants in the name of the Holder equal to the number of Warrant Shares evidenced by the Warrant Certificate.

[SIGNATURE OF HOLDER]

Name of Investor: _____

Signature of Authorized Signatory of Investor if Investor Is an Entity: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Date: _____

Signature of Authorized Signatory of Investor if Investor Is an Individual:

Date: _____

Exhibit 1: Form of Warrant

Subscription Rights Certificate #:

NAVIDEA BIOPHARMACEUTICALS, INC.

SUBSCRIPTION RIGHTS OFFERING

THIS SUBSCRIPTION RIGHTS OFFERING (“RIGHTS OFFERING”) EXPIRES AT 5:00 P.M., NEW YORK CITY TIME, ON , 2022, UNLESS THE EXERCISE PERIOD IS EXTENDED (SUCH DATE AND TIME, AS IT MAY BE EXTENDED, THE “EXPIRATION DATE”).

Navidea Biopharmaceuticals, Inc. (the “Company”) has distributed to each holder of its common stock, par value \$0.001 (the “Common Stock”), each holder of warrants issued to the underwriter in the Company’s public offering in 2019 (the “Underwriter Warrants”), each holder of its Series D redeemable convertible preferred stock, par value \$0.001 (“Series D preferred stock”), and each holder of its Series F redeemable convertible preferred stock, par value \$0.001 (“Series F preferred stock”), owned as of record (each an “Eligible Holder”) at 5:00 p.m., New York City time, on , 2022 (the “Record Date”), at no charge, one (1) non-transferable subscription right (the “Rights”), for each share of common stock owned or deemed owned as of the Record Date. Shares that are “deemed owned” refer to the shares issuable upon exercise of the Underwriter Warrants and the shares issuable upon conversion of the Series D preferred stock and Series F preferred stock. Each Right entitles the Eligible Holder to subscribe for and purchase one (1) unit of the Company (the “Unit”), which we refer to as the basic subscription right, at a subscription price of \$1,000 per Unit (the “Subscription Price”). Each Unit consists of one (1) share of Series I Convertible Preferred Stock, par value \$0.001 (the “Series I preferred stock”), and warrants to purchase 1,333 shares of Common Stock (the “Warrants”).

Each Right consists of a basic subscription right and an over-subscription privilege. An Eligible Holder who fully exercises its basic subscription right is entitled to exercise an over-subscription privilege to subscribe for and purchase, for the Subscription Price, additional Units that remain unsubscribed at the Expiration Date, subject to proration and stock ownership limitations. The terms and conditions of the rights offering are set forth in the Company’s Prospectus dated [], 2022 (as it may be amended or supplemented, the “Prospectus”), which is incorporated into this Subscription Rights Certificate by reference. Capitalized terms used but not defined herein have the meanings set forth in the Prospectus. The owner of this certificate is entitled to the number of Rights, and is entitled to exercise the basic subscription right for the number of Units, shown on this Subscription Rights Certificate.

THE RIGHTS ARE NON-TRANSFERABLE

The Rights are non-transferable. The Rights will not be listed on any securities exchange or quoted on any automated quotation system. Upon expiration of the rights offering, the Series I preferred stock and Warrants will immediately separate. There is no public trading market for the Series I preferred stock or the Warrants and we do not intend that they will be listed for trading on NYSE American or any other securities exchange or market.

SUBSCRIPTION PRICE

The Subscription Price for the basic subscription privilege and the over-subscription privilege is \$1,000 per Unit.

METHOD OF EXERCISE OF RIGHTS

IN ORDER TO EXERCISE YOUR RIGHTS, YOU MUST PROPERLY COMPLETE AND SIGN THIS SUBSCRIPTION RIGHTS CERTIFICATE ON THE BACK AND RETURN IT IN THE ENVELOPE PROVIDED TO THE SUBSCRIPTION AGENT, BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., TOGETHER WITH PAYMENT IN FULL FOR AN AMOUNT EQUAL TO THE SUBSCRIPTION PRICE MULTIPLIED BY THE TOTAL NUMBER OF UNITS THAT YOU ARE REQUESTING TO SUBSCRIBE FOR AND PURCHASE TO THE SUBSCRIPTION AGENT BEFORE 5:00 P.M., NEW YORK CITY TIME, ON THE EXPIRATION DATE. RIGHTS HOLDERS SHOULD CAREFULLY REVIEW THE PROSPECTUS AND CONSULT THEIR LEGAL, TAX AND FINANCIAL ADVISORS BEFORE EXERCISING THEIR RIGHTS.

You must timely pay the full Subscription Price for the full number of Units you wish to acquire pursuant to the basic subscription right and the over-subscription privilege. Units subscribed for pursuant to the over-subscription privilege are subject to proration and stock ownership limitations, as described in the Prospectus. If you are an Eligible Holder, you must deliver payment via wire transfer or cashier's check, certified check, personal check or bank draft drawn against a U.S. bank payable to "Broadridge Corporate Issuer Solutions, Inc." If your shares are held in the name of a broker, dealer, bank or other nominee, you should deliver payment to such broker, dealer, bank or other nominee, as applicable, in accordance with the instructions provided by such nominee.

Certain holders of the Company's Common Stock, Series D preferred stock, and Series F preferred stock will have the option to pay the Subscription Price by cancelling or exchanging their shares of Series D preferred stock, Series F preferred stock and/or Series G redeemable preferred stock and the Company's indebtedness evidenced by a secured term note ("Term Note") in the aggregate principal amount of \$2.5 million plus accrued but unpaid interest, instead of paying by check or wire transfer of funds. The fair market value of the shares of each series of preferred stock and the Term Note to be cancelled or exchanged in the rights offering will be determined by an independent appraisal obtained by the Company. By signing this Subscription Rights Certificate, the subscriber who elects to pay the Subscription Price by cancelling or exchanging their shares of Series D preferred stock, Series F preferred stock, Series G redeemable preferred stock and/or the Term Note, on behalf of itself and each of its directors, officers, agents, employees, and representatives, successors, assigns, and affiliates ("Subscriber Releasing Parties"), hereby affirmatively waives and releases any and all rights and claims (whether absolute or contingent, liquidated or unliquidated, known or unknown, determined, determinable or otherwise) that any Subscriber Releasing Party may now or hereafter have against the Company and each of its directors, officers, agents, employees, and representatives, and any of its or their successors, assigns, and affiliates, whether at law or in equity, arising out of or relating to the purchase, ownership and valuation of the shares of the series of preferred stock and/or Term Note being cancelled or exchanged in the rights offering.

Payments of the Subscription Price for the Units will be held in a segregated account until the rights offering is completed, unless the Company withdraws or terminates the rights offering. No interest will be paid to you on the funds you deposit with the Subscription Agent. You will not receive any interest on the payments held by the Subscription Agent before your Units have been issued to you or your payment is returned to you, without interest, because your exercise has not been satisfied for any reason.

PLEASE PRINT ALL INFORMATION CLEARLY AND LEGIBLY

SECTION 1: OFFERING INSTRUCTIONS (check the appropriate boxes)

IF YOU WISH TO SUBSCRIBE FOR YOUR FULL ENTITLEMENT OF SUBSCRIPTION RIGHTS:

☐ I apply for ALL of my entitlement of units pursuant to the basic subscription right _____ x 1= _____ x \$1,000 = \$ _____
(no. of subscription Rights) (no. of Units) (per Unit)

EXAMPLE: If you own 1,000 shares of Common Stock, your basic subscription right permits the purchase of 1,000 Units. [1,000 subscription Rights x 1= 1,000.]

☐ I apply for additional Units pursuant to the over-subscription privilege* _____ x \$1,000 = \$ _____
(no. of additional Units) (per Unit)

IF YOU DO NOT WISH TO APPLY FOR YOUR FULL ENTITLEMENT OF UNITS PURSUANT TO THE BASIC SUBSCRIPTION RIGHT:

☐ I apply for _____ x \$1,000 = \$ _____
(no. of Units) (per Unit)

IF YOU DO NOT WISH TO EXERCISE YOUR RIGHT TO SUBSCRIBE:

Please disregard this mailing

SECTION 2: SUBSCRIPTION AUTHORIZATION:

I acknowledge that I have received the Prospectus for this rights offering and I hereby subscribe for the number of Units indicated above on the terms and conditions specified in the Prospectus relating to the basic subscription right and over-subscription privilege in the rights offering:

Signature of Subscriber(s)

(address if different than listed on this Rights Certificate)

Telephone number (including area code) _____

* You can only participate in the over-subscription privilege if you have subscribed for your full entitlement of Units pursuant to your basic subscription right.

Please complete all applicable information and return to: Broadridge Corporate Issuer Solutions, Inc.

By First Class Mail: Broadridge Corporate Issuer Solutions, Inc., Attn: BCIS Re-Organization Dept.
P.O. Box 1317, Brentwood, NY 11717-0718

By Express Mail or Overnight Delivery: Broadridge Corporate Issuer Solutions, Inc., Attn: BCIS IWS
51 Mercedes Way, Edgewood, NY 11717

**DELIVERY OF THIS SUBSCRIPTION RIGHTS CERTIFICATE TO AN ADDRESS OTHER THAN AS SET FORTH ABOVE DOES NOT CONSTITUTE A
VALID DELIVERY.**

**Any questions regarding this Rights Certificate and Rights Offering may be directed to Broadridge Corporate Issuer Solutions, Inc., toll free at (888) 789 -8409 or
by email at shareholder@broadridge.com.**



Maslon LLP
Office Dial: 612.672.8200
www.maslon.com

July 20, 2022

Navidea Biopharmaceuticals, Inc.
4995 Bradenton Avenue, Suite 240
Dublin, Ohio 43017

Re: Rights Offering

Ladies and Gentlemen:

We have acted as counsel for Navidea Biopharmaceuticals, Inc., a Delaware corporation (the “**Company**”) in connection with in connection with a Registration Statement on Form S-1 (File No. 333-262691 (the “Registration Statement”) filed by the Company with the Securities and Exchange Commission (the “Commission”) under the Securities Act of 1933, as amended (the “Securities Act”), relating to the registration by the Company of (i) non-transferable subscription rights (the “Rights”) to be distributed by the Company without consideration in connection with a rights offering (the “Rights Offering”) to holders of record of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), holders of record of certain Common Stock purchase warrants issued in 2019, holders of record of the Company’s Series D preferred stock, par value \$0.001 per share, and holders of record of the Company’s Series F preferred stock, par value \$0.001 per share, and (ii) 35,000 units (the “Units”) at a price of \$1,000 per Unit. Each Unit consists of (A) one share of the Company’s Series I Convertible Preferred Stock, par value \$0.001 per share (“Series I Preferred Stock”), each convertible into 1,333 shares of Common Stock (the “Conversion Shares”) and (B) warrants (the “Warrants”) to purchase 1,333 shares of Common Stock (the “Warrant Shares”).

For purposes of this opinion letter, we have examined copies of such agreements, instruments and documents as we have deemed an appropriate basis on which to render the opinion hereinafter expressed. In our examination of the aforesaid documents, we have assumed the genuineness of all signatures, the legal capacity of all natural persons, the accuracy and completeness of all documents submitted to us, the authenticity of all original documents, and the conformity to authentic original documents of all documents submitted to us as copies (including pdfs.). As to any facts material to the opinions expressed herein, we have relied on the representations and statements of fact made in the documents so reviewed, and we have not independently established the facts so relied on. This opinion letter is given, and all statements herein are made, in the context of the foregoing.

We are members of the bar of the State of Minnesota and express no opinion as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware and the federal laws of the United States. With respect to our opinion in Paragraph 3 relating to the enforceability of the Warrants, which by their terms are governed by the laws of the State of New York, we have assumed without investigation or review that the internal law of the State of New York is identical to the internal law of the State of Minnesota.

Subject to the foregoing and the other matters set forth herein, it is our opinion that:

1. The Rights, when issued and delivered as described in the Registration Statement, will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.
2. The Units, when issued, delivered and paid for as described in the Registration Statement, will be validly issued, fully paid and non-assessable.
3. The Warrants, when duly executed by the Company and duly delivered to the purchasers thereof against payment therefor as described in the Registration Statement, will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.
4. The Warrant Shares have been duly authorized and if, as, and when the Warrant Shares are issued and delivered by the Company upon exercise of the Warrants in accordance with the terms thereof, including, without limitation, the payment in full of applicable consideration, the Warrant Shares will be validly issued, fully paid and non-assessable.
5. The shares of Series I Preferred Stock, when issued, delivered and paid for as described in the Registration Statement, will be validly issued, fully paid and non-assessable.
6. The Conversion Shares have been duly authorized and, upon issuance and delivery as described in accordance with the Certificate of Designation of the Series I Convertible Preferred Stock to be filed in connection with the offering contemplated by the Registration Statement and the Company's Amended and Restated Certificate of Incorporation, as amended, will be validly issued, fully paid and non-assessable.

The opinions set forth in paragraphs 1 and 3 above are subject to (i) the effect of any applicable bankruptcy, insolvency, reorganization, moratorium or similar law relating to or affecting creditors' rights generally (including, without limitation, fraudulent conveyance laws) and (ii) the effect of general principles of equity, including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing and the possible unavailability of specific performance or injunctive relief, regardless of whether considered in a proceeding in equity or at law.

We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement and to the reference to this firm under the caption “Legal Matters” in the prospectus constituting part of the Registration Statement. In giving this consent, we do not thereby admit that we are an “expert” within the meaning of the Securities Act. We assume no obligation to update or supplement any of the opinions set forth herein to reflect any changes of law or fact that may occur following the date hereof.

Very truly yours,

A handwritten signature in blue ink that reads "Maslon LLP". The signature is written in a cursive, stylized font.

/s/ MASLON LLP

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in this Registration Statement of Navidea Biopharmaceuticals, Inc. on Amendment # 2 to the Form S-1 (Registration No. 333-262691) of our report dated March 28, 2022, which includes an explanatory paragraph as to the Company's ability to continue as a going concern, with respect to our audits of the consolidated financial statements of Navidea Biopharmaceuticals, Inc. as of December 31, 2021 and 2020 and for the years ended December 31, 2021 and 2020 appearing in the Annual Report on Form 10-K of Navidea Biopharmaceuticals, Inc. for the year ended December 31, 2021. We also consent to the reference to our firm under the heading "Experts" in the Prospectus, which is part of this Registration Statement.

/s/ Marcum LLP

Marcum LLP
Hartford, CT
July 20, 2022

THE TERMS AND CONDITIONS OF THE RIGHTS OFFERING ARE SET FORTH IN THE COMPANY'S PROSPECTUS DATED JULY , 2022 AND ARE INCORPORATED HEREIN BY REFERENCE. COPIES OF THE PROSPECTUS ARE AVAILABLE UPON REQUEST FROM BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE SUBSCRIPTION AGENT, BY CALLING (888) 789-8409.

**INSTRUCTIONS AS TO USE OF NAVIDEA BIOPHARMACEUTICALS, INC.
NON-TRANSFERABLE SUBSCRIPTION RIGHTS CERTIFICATES**

The following instructions relate to a rights offering (the "Rights Offering") by Navidea Biopharmaceuticals, Inc., a Delaware corporation (the "Company"), to the holders of record of shares of its common stock, par value \$0.001 per share (the "Common Stock"), the holders of warrants issued to the underwriter in the Company's public offering in 2019 (the "Underwriter Warrants"), the holders of shares of its Series D redeemable convertible preferred stock, par value \$0.001 (Series D preferred stock"), and the holders of shares of its Series F redeemable convertible preferred stock, par value \$0.001 (Series F preferred stock"), as described in the Company's Prospectus, dated July , 2022 (the "Prospectus"). Holders of record of shares of Common Stock, the Underwriter Warrants, shares of Series D preferred stock and shares of Series F preferred stock as of 5:00 p.m., New York City time, on July , 2022 (the "Record Date") will receive, at no charge, non-transferable subscription rights (the "Rights") to subscribe for and purchase Units at a subscription price of \$1,000 per Unit (the "Subscription Price"). Each Unit consists of one share of Series I Convertible Preferred Stock, par value \$0.001 (the "Series I preferred stock"), and warrants to purchase 1,333 shares of Common Stock (the "Warrants").

Each holder will receive one Right for each share of Common Stock owned as of the Record Date or, in the case of the holders of Underwriter Warrants, Series D preferred stock and Series F preferred stock, for each share that such holders had the right to acquire on the Record Date pursuant to the exercise of the Underwriter Warrants or conversion of the Series D preferred stock or Series F preferred stock (each, a "Basic Subscription Right"). Holders who fully exercise their Basic Subscription Right will be entitled to exercise an over-subscription privilege to subscribe for and purchase, for the Subscription Price, additional Units that remain unsubscribed as a result of unexercised Basic Subscription Rights (the "Oversubscription Privilege"), subject to proration and stock ownership limitations.

Broadridge Corporate Issuer Solutions, Inc. is acting as subscription agent for the Rights Offering (the "Subscription Agent").

The Rights will expire at 5:00 p.m., New York City time, on August , 2022, unless such time is extended by the Company as described in the Prospectus (such date and time, as the same may be extended, the "Expiration Date").

The Company does not intend to issue fractional shares of Series I preferred stock or fractional shares of common stock upon exercise of warrants issued in the rights offering. To the extent that rounding occurs, any excess subscription payments received by the Subscription Agent will be returned as soon as practicable after expiration of the Rights Offering, without interest or deduction. The Rights will be evidenced by non-transferable subscription Rights certificates ("Rights Certificates"). The number of Rights to which you are entitled is printed on your Rights Certificate. You should indicate your wishes with regard to the exercise of your Rights, including the exercise of your Basic Subscription Right and Over-Subscription Privilege, if any, by completing the appropriate section on the back of your Rights Certificate and returning the Rights Certificate with your payment to the Subscription Agent in the envelope provided, or, if you hold your shares of Common Stock, Underwriter Warrants, shares of Series D preferred stock or shares of Series F preferred stock in the name of a broker, dealer, bank or other nominee, by instructing your broker, custodian bank or other nominee to do so on your behalf.

You are required to submit payment in full for all the Units you wish to buy with your Basic Subscription Right and Over-Subscription Privilege. If an insufficient number of Units is available to fully satisfy all Over-Subscription Privilege requests, Rights holders who exercise their Over-Subscription Privilege will receive the available Units pro rata based on the number of Units each Rights holder has subscribed for under the Over-Subscription Privilege. To the extent you properly exercise your Over-Subscription Privilege for a number of Units that exceeds the number of unsubscribed Units available to you, any excess subscription payment received by the Subscription Agent will be returned to you as soon as practicable, without interest or deduction.

Do not send the Subscription Rights Certificate or payment to the Company. If you wish to participate in the Rights Offering, the Subscription Agent must receive your properly completed and duly executed Subscription Rights Certificate and any other required document, with full payment of the aggregate Subscription Price, including final clearance of any checks, before 5:00 p.m., New York City time, on the Expiration Date. **Once you have exercised your Rights, you may not cancel, revoke or otherwise amend the exercise of your Rights. Any Rights that are not exercised prior to the Expiration Date will be void, of no value and will cease to be exercisable for Units, and you will have no further rights under them.**

YOUR RIGHTS CERTIFICATE(S) AND FULL SUBSCRIPTION PAYMENT FOR EACH RIGHT THAT IS EXERCISED PURSUANT TO THE BASIC SUBSCRIPTION RIGHT PLUS THE FULL SUBSCRIPTION PRICE FOR ANY ADDITIONAL AMOUNT OF UNITS SUBSCRIBED FOR PURSUANT TO THE OVER-SUBSCRIPTION PRIVILEGE, INCLUDING FINAL CLEARANCE OF ANY CHECKS, MUST BE RECEIVED BY THE SUBSCRIPTION AGENT PRIOR TO 5:00 P.M., NEW YORK CITY TIME, ON THE EXPIRATION DATE. ONCE A HOLDER OF RIGHTS HAS EXERCISED THE BASIC SUBSCRIPTION RIGHT OR THE OVER-SUBSCRIPTION PRIVILEGE, SUCH EXERCISE MAY NOT BE REVOKED. RIGHTS NOT VALIDLY EXERCISED PRIOR TO 5:00 P.M., NEW YORK CITY TIME, ON THE EXPIRATION DATE WILL EXPIRE. IN CASE YOU HOLD RIGHTS THROUGH A BROKER, CUSTODIAN BANK OR OTHER NOMINEE, YOU SHOULD VERIFY THE DEADLINE FOR DELIVERING YOUR INSTRUCTION WITH YOUR BROKER, CUSTODIAN BANK OR OTHER NOMINEE.

1. Method of Subscription — Exercise of Rights.

Your Rights are evidenced by a non-transferable Rights Certificate, which will be a physical certificate issued through the facilities of the Subscription Agent. The Rights Certificates will be delivered to record holders; if your Common Stock, Underwriter Warrants, Series D preferred stock and/or Series F preferred stock is registered in the name of a broker, dealer, custodian bank or other nominee (the “nominee”), your Rights Certificate will be delivered to such nominee on your behalf.

The Rights may be exercised by registered holders of Rights by completing and signing the Rights Certificate and delivering the completed and duly executed Rights Certificate, together with the full subscription payment for all the Units you wish to buy with your Basic Subscription Right and Over-Subscription Privilege, to the Subscription Agent at the address set forth below. Completed Rights Certificates and related payments, including final clearance of any uncertified checks, must be received by the Subscription Agent prior to 5:00 p.m., New York City time, on the Expiration Date.

If you hold your shares of Common Stock, Underwriter Warrants, shares of Series D preferred stock or shares of Series F preferred stock in the name of a broker, dealer, bank or other nominee and you wish to exercise your Rights, you should instruct your nominee to exercise your Rights on your behalf by delivering all documents and payment on your behalf prior to 5:00 p.m., New York City time, on the Expiration Date. This means that you should give such instructions to your nominee sufficiently in advance of the Expiration Date to enable nominee to exercise your Rights on your behalf before the Expiration Date. The Company will ask your nominee to notify you of the Rights Offering. You should complete and return to your nominee the appropriate subscription documentation you receive from such nominee. Your Rights will not be considered exercised unless the Subscription Agent receives from your nominee all of the required documents and your full subscription payment prior to 5:00 p.m., New York City time, on the Expiration Date. Nominee holders of Rights will be required to certify to the Subscription Agent, before any Right may be exercised with respect to any particular beneficial owner, as to the aggregate number of Units subscribed for pursuant to the Right by such beneficial owner.

Nominees who hold shares of Common Stock, Underwriter Warrants, shares of Series D preferred stock and/or shares of Series F preferred stock for the account of others should notify the respective beneficial owners as soon as possible to ascertain the beneficial owners’ intentions and to obtain instructions with respect to the Rights. If the beneficial owner so instructs, the nominee should exercise the Rights on behalf of the beneficial owner and deliver all documents and payment prior to 5:00 p.m., New York City time, on the Expiration Date. Whether you are a record holder or hold through a nominee, the Company will not be obligated to honor your exercise of Rights if the Subscription Agent receives the documents, including payment, relating to your exercise from you or from your nominee, as applicable, after the Expiration Date, regardless of when you transmitted the documents.

The Company and the Subscription Agent will accept only properly completed and duly executed Rights Certificates actually received at the applicable address listed below, prior to 5:00 p.m., New York City time, on the Expiration Date.

If you are the record holder, the Rights Certificate and payment must be delivered to the Subscription Agent by one or more of the following methods:

If delivering by registered first class mail:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS Re-Organization Dept.
P.O. Box 1317
Brentwood, NY 11717-0718

If delivering by express mail, courier or other expedited service:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS IWS
51 Mercedes Way
Edgewood, NY 11717

DELIVERY TO AN ADDRESS OTHER THAN THAT PROVIDED ABOVE DOES NOT CONSTITUTE VALID DELIVERY AND, ACCORDINGLY, MAY BE REJECTED BY THE COMPANY. PLEASE DO NOT SEND RIGHTS CERTIFICATES OR PAYMENTS TO THE COMPANY.

If you do not indicate the number of Rights being exercised, or do not send sufficient funds to purchase the number of Units requested, then the funds will be applied to the exercise of Rights only to the extent of the payment actually received by the Subscription Agent.

2. Payment Method.

Your payment must be made in U.S. dollars for the full number of Units you wish to acquire under the Rights by one of the following methods:

- a cashier's check, certified check, personal check or bank draft drawn against a U.S. bank payable to "Broadridge Corporate Issuer Solutions, Inc."; or
- wire transfer of immediately available funds to accounts maintained by the Subscription Agent for purposes of accepting subscriptions in the rights offering;

[INSERT WIRE INSTRUCTIONS]

If you send a personal check, payment will not be deemed to have been received by the Subscription Agent until the check has cleared, which may require five (5) or more business days. Payment received after the Expiration Date of the Rights Offering, including any uncertified checks which have not cleared by the Expiration Date, will not be honored, and, in such event, the Subscription Agent will return your payment to you, without interest, as soon as practicable.

Certain holders of the Company's Common Stock, Series D preferred stock, and Series F preferred stock will have the option to pay the Subscription Price by cancelling or exchanging their shares of Series D preferred stock, Series F preferred stock and/or Series G redeemable preferred stock and the Company's indebtedness evidenced by a secured term note ("Term Note") in the aggregate principal amount of \$2.5 million plus accrued but unpaid interest, instead of paying cash. The fair market value of the shares of each series of preferred stock and the Term Note to be cancelled or exchanged in the Rights Offering will be determined by an independent appraisal obtained by the Company.

3. Issuance of Series I Preferred Stock and Warrants.

As soon as practicable after the expiration of the Rights Offering, we expect to close on subscriptions and for the Subscription Agent to arrange for the issuance of the shares of Series I Preferred Stock and Warrants purchased in the Rights Offering. At closing, all prorating calculations and reductions contemplated by the terms of the Rights Offering will have been effected and payment to us for the subscribed-for Units will have cleared. All shares and Warrants that you purchase in the Rights Offering will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration, or DRS, account statement from our transfer agent reflecting ownership of these securities if you are a holder of record. If you hold your common stock, Underwriter Warrants, shares of Series D preferred stock and/or shares of Series F preferred stock in the name of a broker, dealer, bank or other nominee, DTC will credit your account with your nominee with the securities you purchase in the Rights Offering. Continental Stock Transfer & Trust Company, LLC is acting as the warrant agent in this offering.

4. Sale or Transfer of Rights.

The Rights granted to you are non-transferable and therefore, you may not sell, transfer or assign your Rights to anyone.

5. Commissions, Fees and Expenses

If you wish to exercise your Rights, the only cost to you will be the payment of the Subscription Price for purchase of the Rights Offering shares. We will pay all fees charged by the Subscription Agent and information agent. The Company is not charging any fees or commissions in connection with the issuance of the Rights to you or the exercise of your Rights. If you hold your shares of common stock, Underwriter Warrants, shares of Series D preferred stock and/or shares of Series F preferred stock through a nominee, you may be required to pay your nominee certain service or administration fees in connection with the exercise of your Rights. Please check with your nominee in such regard. The Company is not responsible for covering or reimbursing any such fees.

6. Execution.

- *Execution by Registered Holder.* The signature on the Rights Certificate must correspond with the name of the registered holder exactly as it appears on the face of the Rights Certificate without any alteration or change whatsoever. Persons who sign the Rights Certificate in a representative or other fiduciary capacity must indicate their capacity when signing on behalf of the registered holder and, unless waived by the Subscription Agent in its sole and absolute discretion, must present to the Subscription Agent satisfactory evidence of their authority to so act.
- *Execution by Person Other than Registered Holder.* If the Rights Certificate is executed by a person other than the holder named on the face of the Rights Certificate, proper evidence of authority of the person executing the Rights Certificate must accompany the same unless, for good cause, the Subscription Agent dispenses with proof of authority.
- *Signature Guarantees.* Your signature must be guaranteed by an Eligible Institution if you specify special delivery instructions.

7. Method of Delivery.

The method of delivery of Rights Certificates and payment of the subscription payments to the Subscription Agent will be at the election and risk of the participating Rights holder, but, if sent by mail, it is recommended that such certificates and payments be sent by overnight courier or by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to the Subscription Agent and clearance of payment prior to 5:00 p.m., New York City time, on the Expiration Date. If you are a beneficial owner, you must act promptly to ensure that your nominee acts for you and that all required certificates and payments are actually received by the Subscription Agent prior to the Expiration Date of the Rights Offering. The Company is not responsible if your nominee fails to ensure that all required certificates and payments are actually received by the Subscription Agent prior to the Expiration Date of the Rights Offering.

8. No Revocation.

All exercises of Rights are irrevocable.

9. Special Provisions Relating to the Delivery of Rights Through DTC.

In the case of Rights that are held of record through the Depository Trust Company ("DTC"), exercises of Rights may be effected by instructing DTC to transfer the Rights from the DTC account of such holder to the DTC account of the Subscription Agent, and by delivering to the Subscription Agent, by no later than 5:00 p.m., New York City time, on the Expiration Date, the required certification as to the number of Units to be subscribed for under the Basic Subscription Right and the Over-Subscription Privilege, if applicable, by each beneficial owner of Rights on whose behalf such nominee is acting, together with payment in full of the aggregate Subscription Price for amount invested under the Basic Subscription Right and the Over-Subscription Privilege on behalf of all such beneficial owners.

10. Determinations Regarding the Exercise of Your Rights.

The Company will resolve, in its sole discretion, all questions regarding the validity and form of the exercise of your Rights, including time of receipt and eligibility to participate in the Rights Offering. Such determinations will be final and binding. Once made, subscriptions are irrevocable, and the Company will not accept any alternative, conditional or contingent subscriptions or directions. The Company reserves the absolute right to reject any subscriptions or directions not properly submitted or the acceptance of which would be unlawful. You must resolve any irregularities in connection with your subscriptions before 5:00 p.m., New York City time, on the Expiration Date, unless the Company waives them in its sole discretion. Neither the Company nor the Subscription Agent is under any duty to notify you or your representative of defects in your subscriptions. A subscription will be considered accepted, subject to the Company's right to withdraw or terminate the Rights Offering, only when the Subscription Agent receives a properly completed and duly executed Rights Certificate and payment in full of the aggregate Subscription Price for all of the Units for which you have subscribed. The Company's interpretations of the terms and conditions of the Rights Offering will be final and binding.

FOR QUESTIONS REGARDING THE RIGHTS OFFERING, ASSISTANCE REGARDING THE METHOD OF EXERCISING RIGHTS OR FOR ADDITIONAL COPIES OF RELEVANT DOCUMENTS, PLEASE CONTACT THE SUBSCRIPTION AGENT TOLL-FREE: (888) 789-8409.

**FORM OF LETTER TO STOCKHOLDERS WHO ARE RECORD HOLDERS
NAVIDEA BIOPHARMACEUTICALS, INC.**

Units
Offered Pursuant to Subscription Rights
Distributed to Stockholders and Holders of Underwriter Warrants of
Navidea Biopharmaceuticals, Inc.

July , 2022

Dear Stockholder:

This letter is being distributed by Navidea Biopharmaceuticals, Inc. (the “Company”) to all holders of record of shares of its common stock, \$0.001 par value per share (the “Common Stock”), warrants issued to the underwriter in the Company’s public offering in 2019 (the “Underwriter Warrants”), shares of its Series D redeemable convertible preferred stock, par value \$0.001 (“Series D preferred stock”), or shares of its Series F redeemable convertible preferred stock, par value \$0.001 (“Series F preferred stock”), as of 5:00 p.m., Eastern Time, on July , 2022, the record date, in connection with a distribution in a rights offering of non-transferable subscription rights to subscribe for and purchase units. Each unit entitles the holder to one (1) share of the Company’s Series I Convertible Preferred Stock, \$0.001 par value per share, and warrants to purchase 1,333 shares of Common Stock. The subscription rights and units are described in the prospectus dated July , 2022 (a copy of which accompanies this notice).

Pursuant to the rights offering, the Company is issuing subscription rights to subscribe for up to 35,000 units on the terms and subject to the conditions described in the prospectus, at a subscription price of \$1,000 per unit.

The subscription rights may be exercised at any time during the subscription period, which commences on July , 2022 and ends at 5:00 p.m., Eastern Time, on August , 2022 the expiration date, unless extended by the Company.

As described in the prospectus, eligible holders will receive one subscription right for every share of Common Stock owned on the record date or, in the case of the holders of Underwriter Warrants, Series D preferred stock and Series F preferred stock, for each share that such holders had the right to acquire on the record date pursuant to the exercise of the Underwriter Warrants or conversion of the Series D preferred stock or Series F preferred stock, evidenced by non-transferable subscription rights certificates. Each subscription right entitles the holder to purchase one (1) unit at the subscription price, which we refer to as the basic subscription right.

Based on 30,364,792 shares of common stock outstanding as of July 15, 2022, 189,000 shares of Common Stock issuable upon exercise of the Underwriters Warrants, 1,368,211 shares of Common Stock issuable upon conversion of the Series D preferred stock, and 2,175,000 shares of Common Stock issuable upon conversion of the Series F preferred stock, we would grant subscription rights to acquire 34,097,003 units but will only accept subscriptions for 35,000 units. Accordingly, sufficient units may not be available to honor your subscription in full. If exercises of basic subscription right exceed the number of units available in the rights offering, we will allocate the available units pro-rata among the record holders exercising the basic subscription right in proportion to the number of shares of our common stock each of those record holders owned or deemed owned (in the case of the holders of Underwriter Warrants, Series D preferred stock and Series F preferred stock) on the record date, relative to the number of shares owned on the record date by all record holders exercising the basic subscription right. If this pro-rata allocation results in any record holders receiving a greater number of units than the record holder subscribed for pursuant to the exercise of the basic subscription right, then such record holder will be allocated only that number of units for which the record holder subscribed, and the remaining units will be allocated among all other record holders exercising their basic subscription rights on the same pro rata basis described above. The proration process will be repeated until all units have been allocated. If for any reason the amount of units allocated to you is less than you have subscribed for, then the excess funds held by the subscription agent on your behalf will be returned to you, without interest, as soon as practicable after the rights offering has expired and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, and we will have no further obligations to you.

The Company does not intend to issue fractional shares of Series I preferred stock or fractional shares of common stock upon exercise of warrants issued in the rights offering. To the extent that rounding occurs, any excess subscription payment received by the subscription agent will be returned, without interest or penalty, as soon as practicable following the expiration of the offering.

Enclosed are copies of the following documents:

1. Prospectus
2. Subscription Rights Certificate
3. Instructions As to Use of Subscription Rights Certificates
4. A return envelope, addressed to Broadridge Corporate Issuer Solutions, Inc., the subscription agent.

Your prompt attention is requested. To exercise your subscription rights, you should deliver the properly completed and signed subscription rights certificate, with payment of the subscription price in full for each unit subscribed for pursuant to the basic subscription right and over-subscription privilege, if applicable, to the subscription agent, as indicated in the prospectus. The subscription agent must receive the properly completed and duly executed subscription certificate and full payment of the subscription price, including final clearance of any checks, prior to the expiration date.

You cannot revoke the exercise of your subscription right. Subscription rights not exercised at or prior to 5:00 p.m., Eastern Time, on the expiration date will expire.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING SHOULD BE DIRECTED TO BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE SUBSCRIPTION AND INFORMATION AGENT, TOLL-FREE AT (888) 789-8409 OR BY EMAIL AT SHAREHOLDER@BROADRIDGE.COM.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING ALSO CAN BE DIRECTED TO MAXIM GROUP LLC, THE DEALER-MANAGER, TOLL-FREE AT (800) 281-3969.

**FORM OF BROKER LETTER TO CLIENTS WHO ARE BENEFICIAL HOLDERS
NAVIDEA BIOPHARMACEUTICALS, INC.**

Units
Offered Pursuant to Subscription Rights
Distributed to Stockholders and Holders of Underwriter Warrants of
Navidea Biopharmaceuticals, Inc.

July , 2022

To our Clients:

This letter is being distributed to our clients who are holders of Navidea Biopharmaceuticals, Inc. (the “Company”) common stock, \$0.001 par value per share (the “Common Stock”), warrants issued to the underwriter in the Company’s public offering in 2019 (the “Underwriter Warrants”), Series D redeemable convertible preferred stock, par value \$0.001 (“Series D preferred stock”), or Series F redeemable convertible preferred stock, par value \$0.001 (“Series F preferred stock”), as of 5:00 p.m., Eastern Time, on July , 2022, the record date, in connection with a distribution in a rights offering of non-transferable subscription rights to subscribe for and purchase units. Each unit entitles the holder to one (1) share of the Company’s Series I Convertible Preferred Stock, \$0.001 par value per share, and warrants to purchase 1,333 shares of Common Stock. The subscription rights and units are described in the prospectus dated July , 2022 (a copy of which accompanies this notice).

Pursuant to the rights offering, the Company is issuing subscription rights to subscribe for up to 35,000 units on the terms and subject to the conditions described in the prospectus, at a subscription price of \$1,000 per unit.

The subscription rights may be exercised at any time during the subscription period, which commences on July , 2022 and ends at 5:00 p.m., Eastern Time, on August , 2022, the expiration date, unless extended by the Company in its sole discretion.

As described in the prospectus, holders will receive one subscription right for every share of Common Stock owned on the record date or, in the case of the holders of Underwriter Warrants, Series D preferred stock and Series F preferred stock, for each share that such holders had the right to acquire on the record date pursuant to the exercise of the Underwriter Warrants or conversion of the Series D preferred stock or Series F preferred stock, evidenced by non-transferable subscription rights certificates. Each subscription right entitles the holder to purchase one (1) unit at the subscription price, which we refer to as the basic subscription right.

Based on 30,364,792 shares of Common Stock outstanding as of July 15, 2022, 189,000 shares of Common Stock issuable upon exercise of the Underwriters Warrants, 1,368,211 shares of Common Stock issuable upon conversion of the Series D preferred stock, and 2,175,000 shares of Common Stock issuable upon conversion of the Series F preferred stock, we would grant subscription rights to acquire 34,097,003 units but will only accept subscriptions for 35,000 units. Accordingly, sufficient units may not be available to honor your subscription in full. If exercises of basic subscription right exceed the number of units available in the rights offering, we will allocate the available units pro-rata among the record holders exercising the basic subscription right in proportion to the number of shares of our common stock each of those record holders owned or deemed owned (in the case of the holders of Underwriter Warrants, Series D preferred stock and Series F preferred stock) on the record date, relative to the number of shares owned on the record date by all record holders exercising the basic subscription right. If this pro-rata allocation results in any record holders receiving a greater number of units than the record holder subscribed for pursuant to the exercise of the basic subscription right, then such record holder will be allocated only that number of units for which the record holder subscribed, and the remaining units will be allocated among all other record holders exercising their basic subscription right on the same pro rata basis described above. The proration process will be repeated until all units have been allocated. If for any reason the amount of units allocated to you is less than you have subscribed for, then the excess funds held by the Subscription Agent on your behalf will be returned to you, without interest, as soon as practicable after the rights offering has expired and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, and we will have no further obligations to you.

The Company does not intend to issue fractional shares of Series I preferred stock or fractional shares of common stock upon exercise of warrants issued in the rights offering. To the extent that rounding occurs, any excess subscription payment received by will be returned, without interest or penalty, as soon as practicable following the expiration of the offering.

Enclosed are copies of the following documents:

1. Prospectus
2. Form of Beneficial Owner Election Form

THE MATERIALS ENCLOSED ARE BEING FORWARDED TO YOU AS THE BENEFICIAL OWNER OF COMMON STOCK, UNDERWRITER WARRANTS, SERIES D PREFERRED STOCK AND/OR SERIES F PREFERRED STOCK HELD BY US IN YOUR ACCOUNT BUT NOT REGISTERED IN YOUR NAME. EXERCISES OF SUBSCRIPTION RIGHTS MAY BE MADE ONLY BY US AS THE RECORD OWNER AND PURSUANT TO YOUR INSTRUCTIONS.

Accordingly, we request instructions as to whether you wish us to elect to subscribe for any units to which you are entitled pursuant to the terms and subject to the conditions set forth in the enclosed prospectus and other materials. However, we urge you to read the prospectus and other enclosed materials carefully before instructing us to exercise your subscription rights.

Your instructions to us should be forwarded as promptly as possible in order to permit us to exercise subscription rights on your behalf in accordance with the provisions of the rights offering. The rights offering will expire at 5:00 p.m., Eastern Time, on the expiration date. You are encouraged to forward your instructions to us before the expiration date to allow us ample time to act upon your instructions. A holder cannot revoke the exercise of a subscription right.

If you wish to have us, on your behalf, exercise the subscription rights for any units to which you are entitled, please so instruct us by timely completing, executing, and returning to us the Beneficial Owner Election Form enclosed with this notice.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING SHOULD BE DIRECTED TO BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE SUBSCRIPTION AND INFORMATION AGENT, TOLL-FREE AT (888) 789-8409 OR BY EMAIL AT SHAREHOLDER@BROADRIDGE.COM.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING ALSO CAN BE DIRECTED TO MAXIM GROUP LLC, THE DEALER-MANAGER, TOLL-FREE AT (800) 281-3969

FORM OF LETTER TO BROKERS, DEALERS, BANKS AND OTHER NOMINEES
NAVIDEA BIOPHARMACEUTICALS, INC.

Units
Offered Pursuant to Subscription Rights
Distributed to Stockholders and Holders of Underwriter Warrants of
Navidea Biopharmaceuticals, Inc.

July , 2022

To Brokers, Dealers, Banks and Other Nominees:

This letter is being distributed by Navidea Biopharmaceuticals, Inc. (the “Company”) to brokers, dealers, banks and other nominees in connection with the rights offering by the Company to subscribe for and purchase units, pursuant to non-transferable subscription rights distributed to all holders of record of the Company’s common stock, \$0.001 par value per share (the “Common Stock”), warrants issued to the underwriter in the Company’s public offering in 2019 (the “Underwriter Warrants”), shares of its Series D redeemable convertible preferred stock, par value \$0.001 (“Series D preferred stock”), or shares of its Series F redeemable convertible preferred stock, par value \$0.001 (“Series F preferred stock”), as of 5:00 p.m., Eastern Time, on July , 2022, the record date. Each unit entitles the holder to one (1) share of the Company’s Series I Convertible Preferred Stock, \$0.001 par value per share, and warrants to purchase 1,333 shares of Common Stock. The subscription rights and units are described in the prospectus dated July , 2022 (a copy of which accompanies this notice).

Pursuant to the rights offering, the Company is issuing subscription rights to subscribe for up to 35,000 units on the terms and subject to the conditions described in the prospectus, at a subscription price of \$1,000 per unit.

The subscription rights may be exercised at any time during the subscription period, which commences on July , 2022 and ends at 5:00 p.m., Eastern Time, on August , 2022, the expiration date, unless extended by the Company.

As described in the prospectus, each beneficial owner of shares of Common Stock, Underwriter Warrants, shares of Series D preferred stock or shares of Series F preferred stock is entitled to one subscription right for every share of Common Stock owned by such beneficial owner on the record date or, in the case of the holders of Underwriter Warrants, Series D preferred stock and Series F preferred stock, for each share that such beneficial owner had the right to acquire on the record date pursuant to the exercise of the Underwriter Warrants or conversion of the Series D preferred stock or Series F preferred stock, evidenced by non-transferable subscription rights certificates registered in the record holder’s name or its nominee. Each subscription right entitles holder to purchase one (1) unit at the subscription price, which we refer to as the basic subscription right.

Holders who fully exercise their basic subscription right will be entitled to subscribe for additional units that remain unsubscribed as a result of any unexercised basic subscription right, which we refer to as the over-subscription privilege. Subject to stock ownership limitations described in the prospectus, if sufficient units are available, all over-subscription privilege requests will be honored in full. If over-subscription privilege requests for units exceed the remaining units available, the remaining units will be allocated pro-rata among holders who oversubscribe based on the number of shares of Common Stock held by all holders exercising the over-subscription privilege. If this pro rata allocation results in any holder receiving a greater number of units than the holder subscribed for, then such holder will be allocated only the number of units for which the holder oversubscribed, and the remaining units will be allocated among all holders exercising the over-subscription privilege on the same pro rata basis described above. The proration process will be repeated until all units have been allocated.

The Company does not intend to issue fractional shares of Series I preferred stock or fractional shares of common stock upon exercise of warrants issued in the rights offering. To the extent that rounding occurs, any excess subscription payment received by the subscription agent will be returned, without interest or penalty, as soon as practicable following the expiration of the offering.

The Company is asking persons who hold shares of the Company's Common Stock, Underwriter Warrants, shares of Series D preferred stock or shares of Series F preferred stock beneficially, and who have received the subscription rights distributable with respect to those securities through a broker, dealer, bank, or other nominee, to contact the appropriate institution or nominee and request it to effect the transactions for them.

If you exercise subscription rights on behalf of beneficial owners, you will be required to certify to the subscription agent and the Company, in connection with such exercise, as to the aggregate number of subscription rights that have been exercised pursuant to the basic subscription right, whether the basic subscription right of each beneficial owner of subscription rights on whose behalf you are acting has been exercised in full, and the number of units being subscribed for pursuant to the over-subscription privilege by each beneficial owner of subscription rights on whose behalf you are acting.

The Company is asking you to contact your clients for whom you hold shares of Common Stock, Underwriter Warrants, shares of Series D preferred stock or shares of Series F preferred stock registered in your name or the name of your nominee to obtain instruction with respect to the subscription rights.

Enclosed are copies of the following documents:

1. Prospectus
2. Form of Letter to Stockholders Who are Beneficial Holders
3. Form of Beneficial Owner Election Form
4. Form of Nominee Holder Certification

All commissions, fees and other expenses (including brokerage commissions and transfer taxes), other than fees and expenses of the subscription agent, incurred in connection with the exercise of the subscription rights will be for the account of the holder, and none of such commissions, fees or expenses will be paid by the Company or the subscription agent.

Your prompt action is requested. The subscription agent must receive the property completed and duly executed subscription rights certificate and full payment of the subscription price for each unit subscribed for pursuant to the basic subscription right and over-subscription privilege, if applicable, including final clearance of any checks, prior to the expiration date.

A holder cannot revoke the exercise of a subscription right. Subscription rights not exercised at or prior to 5:00 p.m., Eastern Time, on the expiration date will expire.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING SHOULD BE DIRECTED TO BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE SUBSCRIPTION AND INFORMATION AGENT, TOLL-FREE AT (888) 789-8409 OR BY EMAIL AT [SHAREHOLDER@ BROADRIDGE.COM](mailto:SHAREHOLDER@BROADRIDGE.COM).

**FORM OF NOMINEE HOLDER CERTIFICATION
NAVIDEA BIOPHARMACEUTICALS, INC.**

The undersigned, a bank, broker, dealer, trustee, depository, or other nominee of non-transferable subscription rights to purchase units of Navidea Biopharmaceuticals, Inc. (the "Company"), said units each comprised of one (1) share of Series I Convertible Preferred Stock and warrants to purchase 1,333 shares of Common Stock, pursuant to the subscription rights offering described and provided for in the Company's prospectus dated July , 2022, hereby certifies to the Company and Broadridge Corporate Issuer Solutions, Inc., as subscription agent for such rights offering, that (1) the undersigned has exercised, on behalf of the beneficial owners thereof (which may include the undersigned), the number of subscription rights on the terms and subject to the conditions set forth in the prospectus specified below pursuant to the basic subscription right and, on behalf of beneficial owners of subscription rights who have subscribed for the purchase of additional units pursuant to the over-subscription privilege, the number of units specified below, listing separately below each such exercised basic subscription right and the corresponding over-subscription privilege (without identifying any such beneficial owner), and (2) to the extent a beneficial owner has elected to subscribe for units pursuant to the over-subscription privilege, each such beneficial owner's basic subscription right has been exercised in full:

Number of Shares of Common Stock Owned or Deemed Owned (in the case of the Underwriter Warrants, the Series D preferred stock or Series F preferred stock) as of the Record Date	Individual Soliciting Broker (if any)	Number of Units Subscribed for Pursuant to the Basic Subscription Right	Number of Units Subscribed for Pursuant to the Over- Subscription Privilege
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Name of Nominee
Holder: _____

By: _____

Name: _____

Title: _____

Phone Number: _____

Dated: _____

Provide the following information if applicable

DTC Participant
Number: _____

DTC
Participant: _____

By: _____

Name: _____

Title: _____

DTC Subscription Confirmation Number(s): _____

**BENEFICIAL OWNER ELECTION FORM
NAVIDEA BIOPHARMACEUTICALS, INC.**

The undersigned acknowledge(s) receipt of your letter and the enclosed materials referred to therein relating to the rights offering by Navidea Biopharmaceuticals, Inc., a Delaware corporation (the "Company"), of non-transferable subscription rights to purchase units, each such unit comprised of one (1) share of the Company's Series I Convertible Preferred Stock, \$0.001 par value, and warrants to purchase 1,333 shares of Common Stock, \$0.001 par value ("Common Stock").

This will instruct you whether to exercise subscription rights to purchase units distributed with respect to the shares of Common Stock, Underwriter Warrants, shares of Series D preferred stock, and/or shares of Series F preferred stock held by you for the account of the undersigned, pursuant to the terms and subject to the conditions set forth in the prospectus.

(Check the applicable boxes and provide all required information.)

☐ Please DO NOT EXERCISE SUBSCRIPTION RIGHTS for units.

☐ Please EXERCISE SUBSCRIPTION RIGHTS for units as set forth below:

	No. of Units		Per Unit Subscription Price			Payments	
Basic Subscription Right	<input type="checkbox"/>	X	\$	1,000	—	\$	<input type="checkbox"/>
Over-Subscription Privilege	<input type="checkbox"/>	X	\$	1,000	—	\$	<input type="checkbox"/>
Total Payment Required					—	\$	<input type="checkbox"/>

If you spoke with a broker who solicited such exercise, please indicate the name of the person you spoke with:

☐ Payment in the following amount is enclosed \$_____ (must match Total Payment Required above)

☐ Please deduct payment from the following account maintained by you as follows:

Type of Account: _____

Account No.: _____

Amount to be deducted: \$_____

I (we) on my (our) own behalf, or on behalf of any person(s) on whose behalf, or under whose directions, I am (we are) signing this form:

- irrevocably elect to purchase the number of units indicated above upon the terms and conditions specified in the prospectus; and
- agree that if I (we) fail to pay for the shares I (we) have elected to purchase, the exercise will be invalid.

Signature of Beneficial Owner(s): _____

Date: _____, 2022

Name of Beneficial Owner(s): _____

Title: _____

Address: _____

Telephone: _____