

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

AMENDMENT NO. 1
TO
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

BONE BIOLOGICS CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	2834	42-1743430
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

2 Burlington Woods Drive, Suite 100
Burlington, MA 01803
(781) 552-4452
(Address and telephone number of registrant’s principal executive offices)

Jeffrey Frelick
Chief Executive Officer
Bone Biologics Corporation
2 Burlington Woods Drive, Suite 100
Burlington, MA 01803
(781) 552-4452
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

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

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 to Section 7(a)(2)(B) of the Securities Act. ☐

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

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated June 6, 2023

PRELIMINARY PROSPECTUS



BONE BIOLOGICS CORPORATION

**Up to 1,481,481 shares of Common Stock
Up to Pre-Funded Warrants to Purchase up to 1,481,481 Shares of Common Stock
Shares of Common Stock underlying the Pre-Funded Warrants**

We are offering up to 1,481,481 shares of our common stock, at an assumed public offering price of \$5.40 (the last reported sale price of our common stock on The Nasdaq Capital Market on June 2, 2023 after giving effect to a 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023). We are also offering to certain purchasers whose purchase of shares of common stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock immediately following the consummation of this offering, the opportunity to purchase, if any such purchaser so chooses, pre-funded warrants to purchase shares of our common stock, in lieu of shares of common stock that would otherwise result in such purchaser’s beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock. Each pre-funded warrant will be exercisable for one share of our common stock. The purchase price of each pre-funded warrant will be equal to the price at which a share of common stock is sold to the public in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant will be \$0.0001 per share. The pre-funded warrants will be immediately exercisable and may be exercised at any time until all of the pre-funded warrants are exercised in full. This offering also relates to the shares of common stock issuable upon exercise of any pre-funded warrants sold in this offering. For each pre-funded warrant we sell, the number of shares of common stock we are offering will be decreased on a one-for-one basis.

Our common stock is listed on The Nasdaq Capital Market under the symbol “BBLG.” On June 2, 2023, the last reported sale price of our common stock on The Nasdaq Capital Market was \$5.40 per share (after giving effect to a 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023).

The public offering price per share of common stock and any pre-funded warrant, as the case may be, will be determined by us at the time of pricing, may be at a discount to the current market price, and the recent market price used throughout this prospectus may not be indicative of the final offering price. There is no established trading market for the Pre-Funded Warrants and we do not expect a market to develop. In addition, we do not intend to apply for the listing of Pre-Funded Warrants on any national securities exchange or other trading market. Without an active trading market, the liquidity of the Pre-Funded Warrants will be limited.

Unless otherwise noted and other than in our financial statements and the notes thereto, the share and per share information in this prospectus reflects a proposed 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023.

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

Investing in our securities involves a high degree of risk. See the section entitled “Risk Factors” beginning on page 12 of this prospectus and in the documents incorporated by reference into this prospectus for a discussion of risks that should be considered in connection with an investment in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Share	Per Pre-Funded Warrant	Total
Price to the public	\$	\$	\$
Underwriting discounts and commissions ⁽¹⁾	\$	\$	\$
Proceeds to us (before expenses)	\$	\$	\$

(1) We refer you to “Underwriting” beginning on page 22 of this prospectus for additional information regarding underwriting compensation.

We have granted the underwriters the option for a period of 45 days to purchase up to an additional 222,222 shares of common stock at the public offering price, less underwriting discounts and commissions, solely to cover over-allotments, if any.

The underwriter expects to deliver the shares on or about _____, 2023.

Sole Book Running Manager

EF Hutton
division of Benchmark Investments, LLC

The date of this prospectus is _____, 2023.

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ABOUT THIS PROSPECTUS

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

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

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

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

CAUTIONARY NOTE CONCERNING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements that involve risks and uncertainties. You should not place undue reliance on these forward-looking statements. All statements other than statements of historical facts contained in this prospectus and the documents incorporated by reference herein contain are forward-looking statements. The forward-looking statements in this prospectus and the documents incorporated by reference herein contain are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. In some cases, you can identify these forward-looking statements by terms such as “anticipate,” “believe,” “continue,” “could,” “depends,” “estimate,” “expects,” “intend,” “may,” “ongoing,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of those terms or other similar expressions, although not all forward-looking statements contain those words. We have based these forward-looking statements on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, strategy, short- and long-term business operations and objectives, and financial needs. These forward-looking statements include, but are not limited to, statements concerning the following:

- our projected financial position and estimated cash burn rate;
- our estimates regarding expenses, future revenues and capital requirements;
- our ability to continue as a going concern;
- our need to raise substantial additional capital to fund our operations;
- the success, cost and timing of our clinical trials;
- our dependence on third parties in the conduct of our clinical trials;
- our ability to obtain the necessary regulatory approvals to market and commercialize our product candidate;
- the ultimate impact of the current coronavirus pandemic, or any other health epidemic, on our business, our clinical trials, our research programs, healthcare systems or the global economy as a whole;
- the potential that results of preclinical and clinical trials indicate our current product candidate or any future product candidates we may seek to develop are unsafe or ineffective;
- the results of market research conducted by us or others;
- our ability to obtain and maintain intellectual property protection for our current product candidates;
- our ability to protect our intellectual property rights and the potential for us to incur substantial costs from lawsuits to enforce or protect our intellectual property rights;
- the possibility that a third party may claim we or our third-party licensors have infringed, misappropriated or otherwise violated their intellectual property rights and that we may incur substantial costs and be required to devote substantial time defending against claims against us;
- our reliance on third-party suppliers and manufacturers;
- the success of competing therapies and products that are or become available;
- our ability to expand our organization to accommodate potential growth and our ability to retain and attract key personnel;
- the potential for us to incur substantial costs resulting from product liability lawsuits against us and the potential for these product liability lawsuits to cause us to limit our commercialization of our product candidate;
- market acceptance of our product candidate, the size and growth of the potential markets for our current product candidate and any future product candidates we may seek to develop, and our ability to serve those markets; and
- the successful development of our commercialization capabilities, including sales and marketing capabilities.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in “Risk Factors.” Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this prospectus may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus to conform these statements to actual results or to changes in our expectations.

You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement of which this prospectus is a part with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

PROSPECTUS SUMMARY

The following summary highlights selected information contained elsewhere in this prospectus and is qualified in its entirety by the more detailed information and financial statements included elsewhere in this prospectus. It does not contain all the information that may be important to you and your investment decision. You should carefully read this entire prospectus, including the matters set forth under “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and our financial statements and related notes included elsewhere in this prospectus. In this prospectus, unless context requires otherwise, references to “we,” “us,” “our,” “BBLG” “Bone Biologics,” or the “Company” refer to Bone Biologics Corporation.

Company Overview

We are a medical device company that is currently focused on bone regeneration in spinal fusion using the recombinant human protein known as NELL-1. NELL-1 in combination with DBM, demineralized bone matrix, is an osteopromotive recombinant protein that provides target specific control over bone regeneration. The NELL-1 technology platform has been licensed exclusively for worldwide applications to us through a technology transfer from the UCLA Technology Development Group on behalf of UC Regents (“UCLA TDG”). UCLA TDG and the Company received guidance from the Food and Drug Administration that NELL-1/DBM will be classified as a device/drug combination product with a pre-market approval filing.

We were founded by University of California professors in collaboration with an Osaka University professor and a University of Southern California surgeon in 2004 as a privately-held company with proprietary, patented technology that has been validated in sheep and non-human primate models to facilitate bone growth. Our platform technology has application in delivering improved outcomes in the surgical specialties of spinal, orthopedic, general orthopedic, plastic reconstruction, neurosurgery, interventional radiology, and sports medicine. Lead product development and clinical studies are targeted on spinal fusion surgery, one of the larger segments in the orthopedic market.

We are a development stage entity. The production and marketing of our products and ongoing research and development activities will be subject to extensive regulation by numerous governmental authorities in the United States. Prior to marketing in the United States, any combination product developed by us must undergo rigorous preclinical (animal) and clinical (human) testing and an extensive regulatory approval process implemented by the FDA under the Food, Drug and Cosmetic Act. There can be no assurance that we will not encounter problems in clinical trials that will cause us or the FDA to delay or suspend the clinical trials.

Our success will depend in part on our ability to obtain patents and product license rights, maintain trade secrets, and operate without infringing on the proprietary rights of others, both in the United States and other countries. There can be no assurance that patents issued to or licensed by us will not be challenged, invalidated, rendered unenforceable, or circumvented, or that the rights granted thereunder will provide proprietary protection or competitive advantages to us.

The platform technology is our recombinant human protein, known as NELL-1, a proprietary skeletal specific growth factor which is a bone void filler. NELL-1 provides regulation over skeletal tissue formation and stem cell differentiation during bone regeneration. We obtained the platform technology pursuant to an exclusive license agreement with UCLA TDG.

We are currently focused on bone regeneration in lumbar spinal fusion, in keeping with our exclusive license agreement, using NELL-1 in combination with DBM, a demineralized bone matrix from Musculoskeletal Transplant Foundation (“MTF”). The NELL-1/DBM medical device is a combination product which is an osteopromotive recombinant protein that provides target specific control over bone regeneration. Leveraging the resources of investors and strategic partners, we have successfully surpassed four critical milestones:

- Demonstrating a successful small laboratory scale pilot run for the manufacturing of the recombinant NELL-1 protein in Chinese hamster ovary cells;
- Validation of protein dosing and efficacy in established large animal sheep models pilot study;
- Completed pivotal animal study; and
- Filed for a clinical trial outside the United States.

Our lead product is expected to be purified NELL-1 mixed with 510(k) cleared DBM Demineralized Bone Putty recommended for use in conjunction with applicable hardware consistent with the indication. The NELL-1/DBM Fusion Device will be comprised of a single dose vial of NELL-1 recombinant protein freeze dried onto DBM. A vial of NELL-1/DBM will be sold in a convenience kit with a diluent and a syringe of 510(k) cleared demineralized bone (“DBM Putty”) produced by MTF. A delivery device will allow the surgeon to mix the reconstituted NELL-1 with the appropriate quantity of DBM Putty just prior to implantation.

The NELL-1/DBM Fusion Device is intended for use in lumbar spinal fusion and may have a variety of other spine and orthopedic applications.

While the product is initially targeted at the lumbar spine fusion market, in keeping with our exclusive license agreement, we believe NELL-1’s novel set of characteristics, target specific mechanism of action, efficacy, safety and affordability position the product well for application in a variety of procedures including:

Spine Implants. This is the largest market for bone substitute product, representing greater than 70% of the total U.S. market according to Transparency Market Research. While use of the patient’s own bone, also referred to as autograft, to enhance fusion of vertebral segments remains the optimal use for this type of treatment, complications associated with use of autograft bone including pain, increased surgical time and infection limit its use.

Non-Union Trauma Cases. While the majority of fractures heal without the need for osteosynthetic products, bone substitutes are used in complicated breaks where the bone does not mend naturally. Management believes that NELL-1 technology is expected to perform as well as other growth factors in this market.

Osteoporosis. The medical need to find a solution to counter a decrease in bone mass and density seen in women most frequently after menopause or a similar effect on astronauts in microgravity environments for an extended period is a major medical challenge. The systemic use of NELL-1 to stimulate bone regeneration throughout the body thereby increasing bone density could have a very significant impact on the treatment of osteoporosis.

Our Business Strategy

Our business plan is to develop our target specific growth factor for bone regeneration that has demonstrated increases in the quantity and quality of bone, while displaying strong safety profile. Our spine fusion product focus entails advancing through clinical studies to achieve FDA approval for our target specific protein exhibiting efficacy and safety when compared to the gold standard for spine fusion (autografted). Continued capital funding is critical to facilitate the development of our Nell-1 technology through the clinical regulatory path.

Reverse Stock Split

On May 1, 2023, we received the approval of the requisite number of holders of the shares of our common stock to amend our certificate of incorporation to effect a reverse split of the shares of our common stock at a ratio of 1-for-20 to 1-for-50 (or any number in between), with the exact ratio to be set within such range in the discretion of our board of directors without further approval or authorization of our stockholders. On June 5, 2023, we filed a Certificate of Amendment to Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware to effect a 1-for-30 reverse stock split of our outstanding common stock. The reverse stock split became effective on June 5, 2023. The conversion or exercise prices of our issued and outstanding stock options and warrants will be adjusted accordingly.

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware of before making an investment decision. Some of these risks include the following:

- We have incurred substantial losses since our inception and anticipate that we will continue to incur substantial and increasing losses for the foreseeable future.
- We will require substantial additional financing to achieve our goals, and a failure to obtain this necessary capital when needed could force us to delay, limit, reduce or terminate our product development or commercialization efforts.
- We currently have no source of revenues. We may never generate revenues or achieve profitability.
- We expect to continue to incur significant operating and non-operating expenses, which may make it difficult for us to secure sufficient financing and may lead to uncertainty about our ability to continue as a going concern.

- 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 are dependent in part on technologies we license, and if we lose the right to license such technologies or we fail to license new technologies in the future, our ability to develop new products would be harmed, and if we fail to meet our obligations under our current or future license agreements, we may lose the ability to develop our lead product candidate or other product candidates.
- We expect to face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.
- We are currently a pre-clinical stage medical device company with our lead product candidate in pre-clinical development. If we are unable to successfully develop and commercialize our lead product candidate or experience significant delays in doing so, our business may be materially harmed.
- Our success relies on third-party suppliers and manufacturers. Any failure by such third parties, including, but not limited to, failure to successfully perform and comply with regulatory requirements, could negatively impact our business and our ability to develop and market our product candidate, and our business could be substantially harmed.
- Our future success is dependent on the regulatory approval of our lead product candidate or other product candidates.
- Our business may be adversely affected by the ongoing coronavirus pandemic.
- Business interruptions could adversely affect future operations, revenues, and financial conditions, and may increase our cost of expenses.
- Our failure to find third party collaborators to assist or share in the costs of product development could materially harm our business, financial condition, and results of operations.
- If we fail to comply with our obligations under our license agreement with licensors, we could lose rights that are important to our business.
- We may infringe the intellectual property rights of others, which may prevent or delay our product development efforts.
- Our intellectual property may not be sufficient to protect our products from competition.

Implications of Being a Smaller Reporting Company

We are a smaller reporting company as defined in the Securities Exchange Act of 1934, as amended. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as (i) the market value of our voting and non-voting common stock held by non-affiliates is less than \$250 million measured on the last business day of our second fiscal quarter or (ii) our annual revenue is less than \$100 million during the most recently completed fiscal year and the market value of our voting and non-voting common stock held by non-affiliates is less than \$700 million measured on the last business day of our second fiscal quarter. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and have reduced disclosure obligations regarding executive compensation, and, similar to emerging growth companies, if we are a smaller reporting company with less than \$100 million in annual revenue, we would not be required to obtain an attestation report on internal control over financial reporting issued by our independent registered public accounting firm.

Corporate Information

We were incorporated under the laws of the State of Delaware on October 18, 2007 as AFH Acquisition X, Inc. Pursuant to a Merger Agreement, dated September 19, 2014, by and among the Company, its wholly-owned subsidiary, Bone Biologics Acquisition Corp., a Delaware corporation (“Merger Sub”), and Bone Biologics, Inc. Merger Sub merged with and into Bone Biologics Inc., with Bone Biologics Inc. remaining as the surviving corporation in the merger. Upon the consummation of the merger, the separate existence of Merger Sub ceased. On September 22, 2014, the Company officially changed its name to “Bone Biologics Corporation” to more accurately reflect the nature of its business and Bone Biologics, Inc. became a wholly owned subsidiary of the Company. Bone Biologics, Inc. was incorporated in California on September 9, 2004.

Our principal executive offices are located at 2 Burlington Woods Drive, Suite 100, Burlington MA 01803 and our telephone number is (781) 552-4452. Our website address is www.bonebiologics.com. The information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to invest in our common stock.

THE OFFERING

Common Stock offered by us	1,481,481 shares, based on an assumed public offering price of \$5.40 per share of common stock (the last reported sale price of our common stock on The Nasdaq Capital Market on June 2, 2023 after giving effect to a 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023).
Pre-funded warrants offered by us	We are also offering to certain purchasers whose purchase of shares of common stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock immediately following the consummation of this offering, the opportunity to purchase, if such purchasers so choose, pre-funded warrants to purchase shares of common stock, in lieu of shares of common stock that would otherwise result in any such purchaser’s beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock. Each pre-funded warrant will be exercisable for one share of our common stock. The purchase price of each pre-funded warrant will equal the price at which the share of common stock is being sold to the public in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant will be \$0.0001 per share. The pre-funded warrants will be exercisable immediately and may be exercised at any time until all of the pre-funded warrants are exercised in full. This offering also relates to the shares of common stock issuable upon exercise of any pre-funded warrants sold in this offering. For each pre-funded warrant we sell, the number of shares of common stock we are offering will be decreased on a one-for-one basis.
Common stock outstanding prior to this offering	596,301 shares
Common stock to be outstanding immediately after this offering	2,077,782 shares (2,300,004 shares if the underwriters exercise their over-allotment option in full) and no exercise of the Pre-Funded warrants issued in connection with this offering
Option to purchase additional shares	We have granted the representative of the underwriter an option for a period of 45 days to purchase up to an additional 222,222 shares of our common stock (and/or Pre-Funded Warrants to purchase up to 222,222 shares of common stock in lieu thereof), representing 15% of the aggregate shares of common stock and Pre-Funded Warrants sold in this offering, at the public offering price, less underwriting discounts and commissions.

Use of proceeds	We estimate that the net proceeds from this offering will be approximately \$7,224,000 or approximately \$8,340,000 if the underwriters exercise their over-allotment option in full, at an assumed public offering price of \$5.40 per share (the last reported sale price of our common stock on The Nasdaq Capital Market on June 2, 2023 after giving effect to a 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023), after deducting the underwriting discounts and commissions, and estimated offering expenses payable by us. We intend to use the net proceeds from this offering to fund our planned clinical trials, maintain and extend our patent portfolio, retention of contract research organizations, and for working capital and other general corporate purposes. See “Use of Proceeds” for a more complete description of the intended use of proceeds from this offering.
Lock-up agreements	Our executive officers, directors and certain of our shareholders have agreed with the underwriters not to sell, transfer or dispose of any shares or similar securities for a period of 60 days after the date of this prospectus. For additional information regarding our arrangement with the underwriters, please see “Underwriting.”
Reverse Split	On May 1, 2023, we received the approval of the requisite number of holders of the shares of our common stock to amend our certificate of incorporation to effect a reverse split of the shares of our common stock at a ratio of 1-for-20 to 1-for-50 (or any number in between), with the exact ratio to be set within such range in the discretion of our Board without further approval or authorization of our stockholders. On June 5, 2023, we filed a Certificate of Amendment to Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware to effect a 1-for-30 reverse stock split of our outstanding common stock. The reverse stock split became on June 5, 2023.
Risk factors	See “Risk Factors” on page 12 and other information included in this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.
Market Symbol	Our common stock is listed on the Nasdaq Capital Market under the symbol “BBLG.” There is no established trading market for the Pre-Funded Warrants, and we do not expect a market to develop. In addition, we do not intend to apply for the listing of the Pre-Funded Warrants on any national securities exchange or other trading market. Without an active trading market, the liquidity of the Pre-Funded Warrants will be limited.

The number of shares of our common stock to be outstanding after this offering is based on 596,301 shares of our common stock outstanding as of May 31, 2023, assumes no exercise by the underwriters of their over-allotment option and excludes the following:

- 16,990 shares of common stock issuable upon exercise of outstanding common stock options issued to members of management, consultants, and directors at a weighted average exercise price of \$450.00 per common share.
- 375,281 shares of common stock issuable upon exercise of outstanding common stock warrants at an average exercise price of \$59.40 per common share.
- 18,928 shares of common stock reserved for future grants pursuant to our 2015 Equity Incentive Plan.

Except as otherwise indicated herein, all information in this prospectus assumes or gives effect to:

- a 1-for-30 reverse split of our outstanding shares of common stock effected on June 5, 2023. No fractional shares will be issued as a result of the reverse split. Any fractional shares resulting from the reverse split will be rounded up to the nearest whole share.
- no exercise by the underwriters of their option to purchase an additional 222,222 shares of common stock.

RISK FACTORS

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

Risks Related to This Offering

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

Because the price per share of our common stock being offered is substantially higher than the pro forma as adjusted net tangible book value per share of our common stock, you will suffer immediate and substantial dilution with respect to the net tangible book value of the common stock you purchase in this offering. Based on an assumed public offering price of \$5.40 per share (the last reported sale price of our common stock on The Nasdaq Capital Market on June 2, 2023 after giving effect to a 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023) of common stock being sold in this offering, and our pro forma net tangible book value as of March 31, 2023 of \$4.65 per share based on 596,301 shares of common stock outstanding at March 31, 2023, (556,763 shares outstanding at March 31, 2023, plus 39,538 shares issued upon cashless exercise of warrants in May 2023), if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of \$0.59 per share with respect to the pro forma as adjusted net tangible book value of the common stock. See the section entitled “Dilution” for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

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

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

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

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

As previously announced, on November 17, 2022, we received a notification from Nasdaq that because the closing bid price for our common stock was below \$1.00 for 30 consecutive trading days, we no longer met the minimum bid price requirement for continued listing on the Nasdaq Capital Market. Under the Nasdaq listing rules, we had been provided a 180-calendar day grace period to regain compliance with that requirement, which period expired May 16, 2023. The Company was not eligible to obtain an additional second 180 calendar period to regain compliance because as of March 31, 2023, the Company did not meet the initial listing standard for stockholders' equity.

On May 18, 2023, we were notified that, based upon our non-compliance with the minimum bid price requirement set forth in Nasdaq Listing Rule 5550(a)(2) as of May 30, 2023, the Company's securities, common stock and publicly traded warrants, were subject to delisting unless we timely appeal the determination by requesting a hearing before the Nasdaq Hearings Panel (the "Panel"). We have requested a hearing before the Panel, which request will stay any further action by Nasdaq pending the issuance of the Panel's decision following the hearing and the expiration of any extension that may be granted by the Panel. The hearing is scheduled for June 29, 2023.

In connection with regaining compliance, on May 1, 2023, we received the approval of the requisite number of holders of the shares of our common stock to amend our Certificate of Incorporation to effect a reverse split of the shares of our common stock with the exact ratio to be set in the discretion of our Board of Directors. On June 5, 2023, we filed a Certificate of Amendment to Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware to effect a 1-for-30 reverse stock split of our outstanding common stock. The reverse stock split became effective on June 5, 2023. We believe that the reverse split should increase our bid price such that we meet the minimum bid requirement required for maintaining our listing requirements for the Nasdaq Capital Market, although no assurance can be given that such reverse split will be sufficient to satisfy the minimum bid price requirements. If we do not regain compliance, our common stock will be subject to delisting. If our common stock is delisted from Nasdaq, our common stock may be eligible for trading on the over-the-counter market. If we are not able to obtain a listing on another stock exchange or quotation service for our common stock, it may be extremely difficult or impossible for stockholders to sell the shares.

If the Company is not able to obtain a listing on another stock exchange or quotation service for its common stock, it may be extremely difficult or impossible for stockholders to sell their shares of common stock. Moreover, if the Company is delisted from Nasdaq, but obtains a substitute listing for its common stock, it will likely be on a market with less liquidity, and therefore experience potentially more price volatility than experienced on Nasdaq. Stockholders may not be able to sell their shares of common stock on any such substitute market in the quantities, at the times, or at the prices that could potentially be available on a more liquid trading market. As a result of these factors, if the Company's common stock is delisted from Nasdaq, the value and liquidity of the Company's common stock, warrants and pre-funded warrants would likely be significantly adversely affected. A delisting of the Company's common stock from Nasdaq could also adversely affect the Company's ability to obtain financing for its operations and/or result in a loss of confidence by investors, employees and/or business partners.

There can be no assurance that the market price per new share of our common stock after the reverse stock split will remain unchanged or increase in proportion to the reduction in the number of old shares of the Company's common stock outstanding before the reverse stock split. The liquidity of the shares of our common stock may be affected adversely by any reverse stock split given the reduced number of shares of the Company's common stock that will be outstanding following the reverse stock split.

Following any reverse stock split, the resulting market price of our common stock may not attract new investors and may not satisfy the investing requirements of those investors. Although we believe that a higher market price of our common stock may help generate greater or broader investor interest, there can be no assurance that the reverse stock split will result in a share price that will attract new investors, including institutional investors. In addition, there can be no assurance that the market price of our common stock will satisfy the investing requirements of those investors. As a result, the trading liquidity of our common stock may not necessarily improve.

Holders of the Pre-Funded Warrants will have no rights as common stockholders until they acquire our common stock.

Until you acquire shares of our common stock upon exercise of your Pre-Funded Warrants, you will have no rights with respect to shares of our common stock issuable upon exercise of your Pre-Funded warrants. Upon exercise of your Pre-Funded Warrants, you will be entitled to exercise the rights of a common stockholder as to the security exercised only as to matters for which the record date occurs after the exercise.

The sale or perceived sale of a substantial number of shares of our common stock may cause the price of our common stock to decline.

All of our executive officers and directors and certain of our stockholders and warrant holders have agreed not to sell shares of our common stock for a period of 60 days after the date of this prospectus subject to extension under specified circumstances. Common stock subject to these lock-up agreements will become eligible for sale in the public market upon expiration of these lock-up agreements, subject to limitations imposed by Rule 144 under the Securities Act of 1933, as amended. If our stockholders sell substantial amounts of our common stock in the public market, the market price of our common stock could fall. Moreover, the perceived risk of this potential dilution could cause stockholders to attempt to sell their shares and investors to short our common stock. These sales also may make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem reasonable or appropriate.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this public offering, including for any of the currently intended purposes described in the section entitled “Use of Proceeds.” Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management may not apply our cash from this offering in ways that ultimately increase the value of any investment in our securities or enhance stockholder value. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. If we do not invest or apply our cash in ways that enhance stockholder value, we may fail to achieve expected financial results, which may result in a decline in the price of our shares of common stock, and, therefore, may negatively impact our ability to raise capital, invest in or expand our business, acquire additional products or licenses, commercialize our product, or continue our operations.

The reverse stock split could cause our common stock price to decline relative to its value before the split and decrease the liquidity of shares of our common stock.

On June 5, 2023, we filed a Certificate of Amendment to Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware to effect a 1-for-30 reverse stock split of our outstanding common stock. The reverse stock split became effective on June 5, 2023. There is no assurance that that the reverse stock split will not cause an actual decline in the value of our outstanding common stock. The liquidity of the shares of our common stock may be affected adversely by the reverse stock split given the reduced number of shares that will be outstanding following the reverse stock split, especially if the market price of our common stock does not increase as a result of the reverse stock split. In addition, the reverse stock split may increase the number of stockholders who own odd lots (less than 100 shares) of our common stock, creating the potential for such stockholders to experience an increase in the cost of selling their shares and greater difficulty effecting such sales.

INDUSTRY AND MARKET DATA

This prospectus contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. We obtained the industry and market data in this prospectus from our own research as well as from industry and general publications, surveys and studies conducted by third parties. This data involves a number of assumptions and limitations and contains projections and estimates of the future performance of the industries in which we operate that are subject to a high degree of uncertainty, including those discussed in “Risk Factors.” We caution you not to give undue weight to such projections, assumptions and estimates. Further, industry and general publications, studies and surveys generally state that they have been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. While we believe that these publications, studies and surveys are reliable, we have not independently verified the data contained in them. In addition, while we believe that the results and estimates from our internal research are reliable, such results and estimates have not been verified by any independent source.

EXPLANATORY NOTE REGARDING REVERSE STOCK SPLIT

On June 5, 2023, we filed a Certificate of Amendment to Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware to effect a 1-for-30 reverse stock split of our outstanding common stock. The reverse stock split became effective on June 5, 2023. No fractional shares will be issued in connection with the reverse stock split and all such fractional interests will be rounded up to the nearest whole number of shares of common stock. The conversion and/or exercise prices of our issued and outstanding stock options and warrants, will be adjusted accordingly. All information presented in this prospectus assumes a 1-for-30 reverse split of our outstanding shares of common stock, and unless otherwise indicated, all such amounts and corresponding conversion price and/or exercise price data set forth in this prospectus have been adjusted to give effect to the assumed reverse stock split.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$7,224,000, based on an assumed public offering price of \$5.40 per share (the last reported sale price of our common stock on The Nasdaq Capital Market on June 2, 2023 after giving effect to a 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023), after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their over-allotment option to purchase additional shares in full, we estimate that the net proceeds from this offering will be approximately \$8,340,000.

The foregoing discussion assumes no sale of pre-funded warrants, which if sold, would reduce the number of shares of common stock that we are offering on a one-for-one basis.

We currently intend to use the net proceeds to fund our planned clinical trials, maintain and extend our patent portfolio, retention of contract research organizations, and for working capital and other general corporate purposes. See “Risk Factors” for a discussion of certain risks that may affect our intended use of the net proceeds from this offering.

A \$1.00 increase or decrease in the assumed public offering price of \$5.40 (the last reported sale price of our common stock on The Nasdaq Capital Market on June 2, 2023 after giving effect to a 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023) per share would increase or decrease the net proceeds from this offering by approximately \$1,378,000, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus remains the same and after deducting the estimated underwriting discounts payable to the underwriters. An increase (decrease) of 600,000 shares included in the shares offered by us, would increase (decrease) the pro forma amount of each of cash, total stockholders’ equity and total capitalization by approximately \$3,013,000, assuming no change in the assumed public offering price and after deducting estimated underwriting discounts and commissions.

This expected use of the net proceeds from this offering and our existing cash represents our intentions based upon our current plans, financial condition and business conditions. Predicting the cost necessary to develop a product candidate can be difficult and the amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development and commercialization efforts, the status of and results from clinical trials, any collaborations that we may enter into with third parties for our product candidate and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering and our existing cash.

In the ordinary course of our business, we expect to from time to time evaluate the acquisition of, investment in or in-license of complementary products, technologies or businesses, and we could use a portion of the net proceeds from this offering for such activities. We currently do not have any agreements, arrangements or commitments with respect to any potential acquisition, investment or license.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and government securities.

DILUTION

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

As of March 31, 2023, we had a historical net tangible book value of \$2,772,399, or \$4.65 per share of common stock, based on 596,301 shares of common stock outstanding at March 31, 2023, (556,763 shares outstanding at March 31, 2023, plus 39,538 shares issued upon cashless exercise of warrants in May 2023). Our historical net tangible book value per share is the amount of our total tangible assets less our total liabilities at March 31, 2023, divided by 596,301 shares of common stock.

As adjusted net tangible book value per share represents as adjusted net tangible book value divided by the as adjusted total number of shares outstanding.

After giving effect to the issuance and sale of 1,481,481 shares of our common stock (assuming no Pre-Funded Warrants in lieu of common stock are issued) in this offering at an assumed public offering price of \$5.40 per share (the last reported sale price of our common stock on The Nasdaq Capital Market on June 2, 2023 after giving effect to a 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023), and after deducting estimated underwriting discounts and commissions, and estimated offering costs payable by us, our as adjusted net tangible book value as of March 31, 2023 would have been \$9,996,517, or \$4.81 per share. This represents an immediate dilution of \$0.59 in as adjusted net tangible book value per share to new investors purchasing common stock in this offering. Dilution per share to new investors is determined by subtracting pro forma net tangible book value per share after this offering from the assumed public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis:

Assumed public offering price per share		\$	5.40
Historical net tangible book value per share as of March 31, 2023	\$	4.65	
Increase in as adjusted net tangible book value per share attributable to new investors purchasing common stock in this offering		0.16	
As adjusted net tangible book value per share after this offering			4.81
Dilution per share to new investors purchasing in this offering		\$	0.59

A \$1.00 increase (decrease) in the assumed public offering price of \$5.40 per share (the last reported sale price of our common stock on The Nasdaq Capital Market on June 2, 2023 after giving effect to a 1-for-30 reverse stock split of our outstanding common stock effected on June 5, 2023) would increase (decrease) our pro forma as adjusted net tangible book value as of March 31, 2023, after this offering by approximately \$1,378,000, or approximately \$0.66 per share, and would increase (decrease) dilution to investors in this offering by approximately \$0.34 per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting the estimated underwriting discount and estimated offering expenses payable by us.

We may also increase or decrease the number of shares of common stock and pre-funded warrants we are offering from the number of shares of common stock set forth above. An increase of 600,000 in the assumed number of shares of common stock sold by us in this offering would result in an increase in our as adjusted net tangible book value of approximately \$3,013,000, or approximately \$0.05 per share, and the dilution per share to investors purchasing common stock and pre-funded warrants in this offering would be approximately \$0.05 per share, assuming that the assumed public offering price per share of common stock remains the same, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. A decrease of 600,000 in the assumed number of shares of common stock sold by us in this offering would result in a decrease in our as adjusted net tangible book value after this offering of approximately \$3,013,000, or approximately \$0.08 per share, and the dilution per share to investors purchasing common stock in this offering would be approximately \$0.08 per share, assuming that the assumed public offering price per share of common stock remains the same, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

The information discussed above is illustrative only and will be adjusted based on the actual public offering price, the actual number of shares sold in this offering and other terms of this offering determined at pricing.

The discussion and table above assume (i) no exercise of the underwriters' option to purchase up to an additional 222,222 shares of common stock and (ii) no sale of Pre-Funded Warrants in this offering.

The foregoing discussion and table does not consider further dilution to new investors that could occur upon the exercise of outstanding options having a per share exercise price less than the public offering price per share of common stock sold in this offering. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

The number of shares of our common stock to be outstanding after this offering is based on 596,301 shares of common stock outstanding as of May 31, 2023, assumes no exercise by the underwriters of their over-allotment option and excludes the following:

- 16,990 shares of common stock issuable upon exercise of outstanding common stock options issued to members of management, consultants, and directors at a weighted average exercise price of \$450.00 per common share.
- 375,281 shares of common stock issuable upon exercise of outstanding common stock warrants at an average exercise price of \$59.40 per common share.

- 18,928 shares of common stock reserved for future grants pursuant to our 2015 Equity Incentive Plan.

Except as otherwise indicated herein, all information in this prospectus assumes or gives effect to:

- a 1-for-30 reverse split of our outstanding shares of common stock effected on June 5, 2023. No fractional shares will be issued as a result of the reverse split. Any fractional shares resulting from the reverse split will be rounded up to the nearest whole share.
- no exercise by the underwriters of their option to purchase an additional 222,222 shares of common stock.

To the extent that stock options or warrants are exercised, we issue new stock options under our 2015 Equity Incentive Plan, or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering. In addition, if we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

The information discussed above is illustrative only and will adjust based on the actual public offering price, the actual number of shares that we offer in this offering, and other terms of this offering determined at pricing. Except as indicated otherwise, the discussion and table above assume no sale of pre-funded warrants, which, if sold, would reduce the number of shares of common stock that we are offering on a one-for-one basis.

DESCRIPTION OF CAPITAL STOCK

General

Upon completion of this offering, our authorized capital stock will consist of 100,000,000 shares of common stock, par value \$0.001 per share, and 20,000,000 shares of preferred stock, par value \$0.001 per share.

As of May 31, 2023, we had 34 stockholders of record holding 569,301 shares of our common stock outstanding, including 508,200 shares of common stock held by an indeterminate number of beneficial owners of securities whose shares are held in the names of various depository accounts, brokerage firms and clearing agencies.

The following description of our capital stock and provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws to be effective upon the completion of this offering is only a summary. You should also refer to our Certificate of Incorporation, a copy of which is filed as an exhibit to the registration statement of which this prospectus is a part, and our Amended and Restated Bylaws, a copy of which is filed as an exhibit to the registration statement of which this prospectus is a part.

Common Stock

We are authorized to issue up to a total of 100,000,000 shares of common stock, par value \$0.001 per share. Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of our stockholders. Holders of our common stock have no cumulative voting rights.

Further, holders of our common stock have no pre-emptive or conversion rights or other subscription rights. Upon our liquidation, dissolution or winding-up, holders of our common stock are entitled to share in all assets remaining after payment of all liabilities and the liquidation preferences of any of our outstanding shares of preferred stock. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of our assets which are legally available. Each outstanding share of our common stock is, and all shares of common stock to be issued in this offering when they are paid for will be, fully paid and non-assessable.

The holders of a majority of the shares of our capital stock, represented in person or by proxy, are necessary to constitute a quorum for the transaction of business at any meeting. If a quorum is present, an action by stockholders entitled to vote on a matter is approved if the number of votes cast in favor of the action exceeds the number of votes cast in opposition to the action, with the exception of the election of directors, which requires a plurality of the votes cast.

Preferred Stock

Our Board of Directors will have the authority, without further action by the stockholders, to issue up to 20,000,000 shares of preferred stock in one or more series and to fix the designations, powers, preferences, privileges, and relative participating, optional, or special rights as well as the qualifications, limitations, or restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption, and liquidation preferences, any or all of which may be greater than the rights of the common stock. Our board of directors, without stockholder approval, will be able to issue convertible preferred stock with voting, conversion, or other rights that could adversely affect the voting power and other rights of the holders of common stock. Preferred stock could be issued quickly with terms calculated to delay or prevent a change of control or make removal of management more difficult. Additionally, the issuance of preferred stock may have the effect of decreasing the market price of our common stock, and may adversely affect the voting and other rights of the holders of common stock. At present, we have no plans to issue any shares of preferred stock following this offering.

Options

Our 2015 Equity Incentive Plan provides for us to sell or issue restricted shares of common stock or to grant incentive stock options or non-qualified stock options, stock appreciation rights, and restricted stock unit awards for the purchase of shares of common stock to employees, members of the Board of Directors and consultants (see “Executive and Director Compensation – 2015 Equity Incentive Plan”). As of March 31, 2023, we had issued options to purchase 16,990 shares of our common stock under the 2015 Equity Incentive Plan.

Anti-Takeover Provisions of Delaware Law, our Certificate of Incorporation and our Amended and Restated Bylaws

Delaware Law

We are governed by the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly traded Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A business combination includes mergers, asset sales or other transactions resulting in a financial benefit to the stockholder. An interested stockholder is a person who, together with affiliates and associates, owns (or within three years, did own) 15% or more of the corporation’s voting stock, subject to certain exceptions. The statute could have the effect of delaying, deferring or preventing a change in control of our Company.

Board of Directors Vacancies

Our Certificate of Incorporation and Amended and Restated Bylaws authorize only our board of directors to fill vacant directorships. In addition, the number of directors constituting our board of directors may be set only by resolution of the majority of the incumbent directors.

Stockholder Action; Special Meeting of Stockholders

Our Certificate of Incorporation and Amended and Restated Bylaws provide that our stockholders may take action by written consent. Our Certificate of Incorporation and Amended and Restated Bylaws further provide that special meetings of our stockholders may be called by a majority of the board of directors or upon the demand of stockholders holding at least 15% of the voting power of the outstanding shares.

Advance Notice Requirements for Stockholder Proposals and Director Nominations

Our Amended and Restated Bylaws provide that stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at our annual meeting of stockholders, must provide timely notice of their intent in writing. To be timely, a stockholder's notice must be delivered to the secretary at our principal executive offices not later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, or if no annual meeting was held in the preceding year, notice by the stockholder to be timely must be so delivered not earlier than the close of business on the 120th day prior to such annual meeting and not later than the close of business on the later of the 90th day prior to such annual meeting or the 10th day following the day on which a public announcement of the date of such meeting is first made by us. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders.

Authorized but Unissued Shares

Our authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval and may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise. If we issue such shares without stockholder approval and in violation of limitations imposed by The Nasdaq Capital Market or any stock exchange on which our stock may then be trading, our stock could be delisted.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Equiniti Trust Company, 1110 Centre Pointe Curve, Mendota Heights, MN 55120.

Stock Market Listing

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

2015 Equity Incentive Plan

Our 2015 Equity Incentive Plan was approved by majority shareholder consent on December 30, 2015 and all options outstanding as of the effective date were cancelled and re-issued under the new plan at current plan terms.

- **Base Salary:** The Company's base salaries are designed as a means to provide a fixed level of compensation in order to attract and retain talent. The base salaries of our named executive officers depend on their job responsibilities, the market rate of compensation paid by companies in our industry for similar positions, our financial position and the strength of our business.
- **Performance-Based Cash Awards:** As part of the Company's executive compensation program, the board intends to establish an annual performance-based cash award program for our executive officers and other key employees based upon individual performance and the Company's performance. The award program will also be designed to reinforce the Company's goals and then current strategic initiatives. The annual performance-based cash awards will be based on the achievement of Company and individual performance metrics established at the beginning of each fiscal year by the compensation committee and our Board of Directors. Following the end of each fiscal year, the compensation committee will be responsible for determining the bonus amount payable to the executive officer based on the achievement of the Company's performance and the individual performance metrics established for such executive.
- **Long-Term Equity Awards:** Our Board of Directors believes that equity ownership by our executive officers and key employees encourages them to create long-term value and aligns their interest with those of our stockholders. We grant annual equity awards to our executive officers under our 2015 Equity Incentive Plan. Our Board of Directors adopted and approved the following 2015 Equity Incentive Plan and intends to submit it for approval by our stockholders.

- **2015 Equity Incentive Plan:** The Company has 35,918 shares of Common Stock authorized and reserved for issuance under our 2015 Equity Incentive Plan for option awards. This reserve may be increased by the Board each year by up to the number of shares of stock equal to 5% of the number of shares of stock issued and outstanding on the immediately preceding December 31. Appropriate adjustments will be made in the number of authorized shares and other numerical limits in our 2015 Equity Incentive Plan and in outstanding awards to prevent dilution or enlargement of participants' rights in the event of a stock split or other change in our capital structure. Shares subject to awards granted under our 2015 Equity Incentive Plan which expire, are repurchased or are cancelled or forfeited will again become available for issuance under our 2015 Equity Incentive Plan. The shares available will not be reduced by awards settled in cash. Shares withheld to satisfy tax withholding obligations will not again become available for grant. The gross number of shares issued upon the exercise of stock appreciation rights or options exercised by means of a net exercise or by tender of previously owned shares will be deducted from the shares available under our 2015 Equity Incentive Plan.
- Awards may be granted under our 2015 Equity Incentive Plan to our employees, including officers, director or consultants, and our present or future affiliated entities. While we may grant incentive stock options only to employees, we may grant non-statutory stock options, stock appreciation rights, restricted stock purchase rights or bonuses, restricted stock units, performance shares, performance units and cash-based awards or other stock based awards to any eligible participant.

The 2015 Equity Incentive Plan is administered by our compensation committee. Subject to the provisions of our 2015 Equity Incentive Plan, the compensation committee determines, in its discretion, the persons to whom, and the times at which, awards are granted, as well as the size, terms and conditions of each award. All awards are evidenced by a written agreement between us and the holder of the award. The compensation committee has the authority to construe and interpret the terms of our 2015 Equity Incentive Plan and awards granted under our 2015 Equity Incentive Plan.

DESCRIPTION OF SECURITIES WE ARE OFFERING

Common Stock

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

Warrants

Pre-Funded Warrants

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

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

Exercisability Each pre-funded warrant may be exercised, in cash or by a cashless exercise at the election of the holder at any time following the date of issuance and from time to time thereafter until the pre-funded warrants are exercised in full. The pre-funded warrants will be exercisable in whole or in part by delivering to the Company a completed instruction form for exercise and complying with the requirements for exercise set forth in the pre-funded warrant. Payment of the exercise price may be made in cash or pursuant to a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the pre-funded warrant.

Cashless Exercise At the time a holder exercises its pre-funded warrants, in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants.

Exercise Limitation In general, a holder will not have the right to exercise any portion of a pre-funded warrant if the holder (together with its Attribution Parties (as defined in the pre-funded warrant)) would beneficially own in excess of 4.99% or 9.99%, at the election of the holder, of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrant. However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99% upon notice to us, provided, that any increase in this limitation will not be effective until 61 days after such notice from the holder to us and such increase or decrease will apply only to the holder providing such notice.

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

Fractional Shares No fractional shares of common stock will be issued upon the exercise of the pre-funded warrants. Rather, the number of shares of common stock to be issued will, at our election, either be rounded up to the nearest whole number or we will pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price.

Trading Market There is no trading market available for the pre-funded warrants on any securities exchange or nationally recognized trading system.

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

UNDERWRITING

We entered into an underwriting agreement with EF Hutton, division of Benchmark Investments, LLC (“EF Hutton”) on _____, 2023. EF Hutton is acting as the sole underwriter. The underwriting agreement provides for the purchase of a specific number of shares of common stock and Pre-funded Warrants to purchase shares of common stock by the underwriter. Subject to the terms and conditions of the underwriting agreement, the underwriter has agreed to purchase the number of shares and Pre-Funded warrants set forth opposite its name below:

Underwriters	Number of Shares, Pre- Funded Warrants
EF Hutton, division of Benchmark Investments, LLC	

The underwriter has agreed to purchase all of the shares of common stock and Pre-Funded Warrants offered by this prospectus, if any are purchased.

The underwriter is offering the shares of common stock and/or Pre-Funded Warrants subject to various conditions and may reject all or part of any order. EF Hutton has advised us that it proposes initially to offer the shares of common stock and/or Pre-Funded Warrants to purchase shares of common stock to the public at the public offering price set forth on the cover page of this prospectus and to dealers at a price less a concession not in excess of \$___ per share or \$___ per Pre-Funded Warrant, based on the public offering price per share or Pre-Funded Warrant. After the shares of common stock and/or Pre-Funded Warrants are released for sale to the public, EF Hutton may change the offering price, the concession, and other selling terms at various times.

The following table shows the public offering price, underwriting discount and proceeds, before expenses, to us. The information assumes either no exercise or full exercise by the underwriters of their over-allotment option.

	Per Share	Per Pre-Funded Warrant	Total with no Over-Allotment	Total with Over-Allotment
Public offering price	\$	\$	\$	\$
Underwriting discount (7%)	\$	\$	\$	\$
Proceeds, before expenses, to us	\$	\$	\$	\$

The underwriters propose to offer the shares directly to the public at the public offering price on the cover of this prospectus and to selected dealers, which may include the underwriters, at such offering price less a selling concession not in excess of \$__ per share.

The expenses of this offering that are payable by us are estimated to be approximately \$_____ (which excludes estimated underwriting discounts and commissions. We will be responsible for all of the underwriters expenses related to this offering, including filing fees and communication expenses for the registration of the shares, all filing fees associated with the review of this offering by FINRA, fees and expenses relating to the listing of the shares of common stock on The Nasdaq Capital Market, fees relating to the registration, qualification or exemptions of the shares under securities laws of foreign jurisdictions, cost of making and printing the underwriting documents, cost and expenses of a public relations firm, cost of preparing, printing and delivering stock certificates, fees and expenses of the transfer agent, and fees and expenses of our legal counsel, road show expenses for this offering, and fees and expenses of the underwriters legal counsel. The maximum amount of fees, costs and expenses incurred by the underwriters that we shall be responsible for may not exceed \$100,000.

Over-Allotment Option

We have granted the representative of the underwriter an option to purchase up to an additional 222,222 shares of common stock (and/or Pre-Funded Warrants to purchase up to 222,222 shares of common stock in lieu thereof, representing 15% of the aggregate shares of common stock and Pre-Funded Warrants sold in this offering, from us at the public offering price, less underwriting discounts and commissions, within 45 days from the date of this prospectus to cover over-allotments, if any.

Lock-Up Agreements

All of our directors, executive officers and certain of our shareholders have agreed that, for a period of 60 days after the date of this prospectus and subject to certain limited exceptions, we and they will not, directly or indirectly, without the prior written consent of EF Hutton (i) offer for sale, sell, pledge, or otherwise dispose of (or enter into any transaction or device that is designed to, or could be expected to, result in the disposition by any person at any time in the future of) any shares of common stock (including, without limitation, shares of common stock that may be deemed to be beneficially owned by us or them in accordance with the rules and regulations of the SEC and shares of common stock that may be issued upon exercise of any options or warrants) or securities convertible into or exercisable or exchangeable for common stock, (ii) enter into any swap or other derivatives transaction that transfers to another, in whole or in part, any of the economic benefits or risks of ownership of shares of common stock, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of common stock or other securities, in cash or otherwise, (iii) make any demand for or exercise any right or file or cause to be filed a registration statement, including any amendments thereto, with respect to the registration of any shares of common stock or securities convertible into or exercisable or exchangeable for common stock or any of our other securities, or (iv) publicly disclose the intention to do any of the foregoing.

EF Hutton, in its sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time. When determining whether or not to release common stock and other securities from lock-up agreements, EF Hutton will consider, among other factors, the holder’s reasons for requesting the release, the number of shares of common stock and other securities for which the release is being requested and market conditions at the time.

Offering Price Determination

The actual offering price of the common shares we are offering will be negotiated between us and the underwriters based upon, among other things, the trading of our shares prior to the offering.

Indemnification

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

Stabilization, Short Positions and Penalty Bids

The underwriters may engage in stabilizing transactions, short sales and purchases to cover positions created by short sales, and penalty bids or purchases for the purpose of pegging, fixing or maintaining the price of the common stock, in accordance with Regulation M under the Exchange Act:

- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.
- Syndicate covering transactions involve purchases of the common stock in the open market after the distribution has been completed in order to cover syndicate short positions.
- Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the common stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of the common stock. As a result, the price of the common stock may be higher than the price that might otherwise exist in the open market. These transactions may be effected on The Nasdaq Capital Market or otherwise and, if commenced, may be discontinued at any time.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of the common stock. In addition, neither we nor any of the underwriters make any representation that the underwriters will engage in these stabilizing transactions or that any transaction, once commenced, will not be discontinued without notice.

Electronic Distribution

A prospectus in electronic format may be made available on the Internet sites or through other online services maintained by one or more of the underwriters and/or selling group members participating in this offering, or by their affiliates. In those cases, prospective investors may view offering terms online and, depending upon the particular underwriter or selling group member, prospective investors may be allowed to place orders online. The underwriters may agree with us to allocate a specific number of shares for sale to online brokerage account holders. Any such allocation for online distributions will be made by the underwriters on the same basis as other allocations.

Other than the prospectus in electronic format, the information on any underwriter's or selling group member's web site and any information contained in any other web site maintained by an underwriter or selling group member is not part of the prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or any underwriter or selling group member in its capacity as underwriter or selling group member and should not be relied upon by investors.

Listing on The Nasdaq Capital Market

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

Discretionary Sales

The underwriters have informed us that they do not expect to sell more than 5% of the common stock in the aggregate to accounts over which they exercise discretionary authority.

Other Relationships

Certain of the underwriters and their affiliates may in the future provide various investment banking, commercial banking and other financial services for us and our affiliates for which they may in the future receive customary fees.

Selling Restrictions

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

Notice to prospective investors in the European Economic Area and the United Kingdom

In relation to each Member State of the European Economic Area and the United Kingdom (each a "Relevant State"), no shares have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

- (a) to any legal entity which is a qualified investor as defined under the Prospectus Regulation;
- (b) to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the underwriters; or
- (c) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation and each person who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with each of the underwriters and us that it is a “qualified investor” within the meaning of Article 2(e) of the Prospectus Regulation. In the case of any shares being offered to a financial intermediary as that term is used in the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Relevant State to qualified investors as so defined or in circumstances in which the prior consent of the underwriters have been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an “offer to the public” in relation to shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129.

Notice to prospective investors in the United Kingdom

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are “qualified investors” (as defined in the Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the “Order”) and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as “relevant persons”) or otherwise in circumstances which have not resulted and will not result in an offer to the public of the shares in the United Kingdom within the meaning of the Financial Services and Markets Act 2000.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

Notice to prospective investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (the “SIX”) or on any other stock exchange or regulated trading facility in Switzerland. This document does not constitute a prospectus within the meaning of, and has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (the “FINMA”), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (the “CISA”). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to prospective investors in France

This prospectus (including any amendment, supplement or replacement thereto) is not being distributed in the context of a public offering in France within the meaning of Article L. 411-1 of the French Monetary and Financial Code (Code monétaire et financier). This prospectus has not been and will not be submitted to the French Autorité des marchés financiers (the “AMF”) for approval in France and accordingly may not and will not be distributed to the public in France.

Pursuant to Article 211-3 of the AMF General Regulation, French residents are hereby informed that:

1. the transaction does not require a prospectus to be submitted for approval to the AMF;
2. persons or entities referred to in Point 2°, Section II of Article L. 411-2 of the Monetary and Financial Code may take part in the transaction solely for their own account, as provided in Articles D. 411-1, D. 734-1, D. 744-1, D. 754-1 and D. 764-1 of the Monetary and Financial Code; and
3. the financial instruments thus acquired cannot be distributed directly or indirectly to the public otherwise than in accordance with Articles L. 411-1, L. 411-2, L. 412-1 and L. 621-8 to L. 621-8-3 of the Monetary and Financial Code.

This prospectus is not to be further distributed or reproduced (in whole or in part) in France by the recipients of this prospectus. This prospectus has been distributed on the understanding that such recipients will only participate in the issue or sale of our common stock for their own account and undertake not to transfer, directly or indirectly, our common stock to the public in France, other than in compliance with all applicable laws and regulations and in particular with Articles L. 411-1 and L. 411-2 of the French Monetary and Financial Code.

Notice to Prospective Investors in Germany

Our common stock may be offered and sold in the Federal Republic of Germany only in compliance with the Prospectus Regulation, the Commission Delegated Regulations (EU) 2019/979 and (EU) 2019/980, each as of March 14, 2019 and the German Securities Prospectus Act (Wertpapierprospektgesetz), as amended, or any other laws applicable in Germany governing the issue, offering and sale of securities. This prospectus has not been approved under the Prospectus Regulation and, accordingly, our common stock may not be offered publicly in the Federal Republic of Germany. Our common stock will only be offered in the Federal Republic of Germany in reliance on an exemption from the requirement to publish an approved securities prospectus under the Prospectus Regulation. Any resale of our common stock in Germany may only be made in accordance with the Prospectus Regulation and other applicable laws.

Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to “professional investors” as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) (the “SFO”) of Hong Kong and any rules made thereunder; or (b) in other circumstances which do not result in the document being a “prospectus” as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong) (the “CO”) or which do not constitute an offer to the public within the meaning of the CO. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the SFO and any rules made thereunder.

Notice to Prospective Investors in China

This prospectus will not be circulated or distributed in the PRC and the shares will not be offered or sold, and will not be offered or sold to any person for re-offering or resale directly or indirectly to any residents of the PRC except pursuant to any applicable laws and regulations of the PRC. Neither this prospectus nor any advertisement or other offering material may be distributed or published in the PRC, except under circumstances that will result in compliance with applicable laws and regulations.

LEGAL MATTERS

The validity of the issuance of the common stock offered by us in this offering will be passed upon for us TroyGould PC, Los Angeles, California. Certain legal matters in connection with this offering will be passed upon for the underwriters by Lucosky Brookman LLP, Woodbridge, New Jersey.

EXPERTS

The consolidated financial statements of Bone Biologics Corporation as of December 31, 2022 and 2021, and for each of the years then ended, incorporated by reference into this prospectus and in the registration statement have been so incorporated in reliance upon the report of Weinberg & Company, P.A., an independent registered public accounting firm (the report on the consolidated financial statements contains an explanatory paragraph regarding our ability to continue as a going concern), incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

INFORMATION INCORPORATED BY REFERENCE

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

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

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2022, filed with the SEC on March 30, 2023; and
- our Quarterly Report on [Form 10-Q](#) for the period ended March 31, 2023, filed with the SEC on May 15, 2023; and
- our Current Reports on Form 8-K filed with the SEC on [May 19, 2023](#) and [June 6, 2023](#) (other than any portions thereof deemed furnished and not filed); and
- The description of the Common Stock incorporated by reference to our Registration Statement on [Form 8-A](#) that was filed with the SEC on October 8, 2021, including any amendment or report filed for the purpose of updating such description; and

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

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 the reports or documents upon written or oral request at no cost to the requestor. You should direct any written requests for documents to:

Bone Biologics Corporation
2 Burlington Woods Drive, Suite 100
Burlington, MA 01803
Attn: Chief Financial Officer
(781) 552-4452

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

WHERE YOU CAN FIND MORE INFORMATION

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

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

We maintain a website at www.bonebiologics.com. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not incorporated by reference into, and is not part of, this prospectus.

BONE BIOLOGICS CORPORATION

Up to 1,481,481 shares of Common Stock
Up to Pre-Funded Warrants to Purchase up to 1,481,481 Shares of Common Stock

Prospectus

, 2023

Sole Book Running Manager

EF Hutton

division of Benchmark Investments, LLC

PART II — INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth all expenses, other than the underwriting discounts and commissions, payable by the registrant in connection with the sale of the securities being registered. All the amounts shown are estimates except the SEC registration fee and the FINRA filing fee.

	Amount to be paid	
SEC registration fee	\$	881.60
Transfer agent and registrar fees	\$	20,000.00
Accounting fees and expenses	\$	20,000.00
Legal fees and expenses	\$	165,000.00
Printing and engraving expenses	\$	5,000.00
Miscellaneous	\$	5,000.00
Total	\$	215,881.60

Item 14. Indemnification of Directors and Officers

Section 102 of the DGCL permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his 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 Delaware corporate law or obtained an improper personal benefit. Our Amended and Restated Certificate of Incorporation provides that no director of the Company shall be personally liable to it or its stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the DGCL prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except 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 indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws provide indemnification for our directors and officers to the fullest extent permitted by the DGCL. We will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnatee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnatee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. Our Certificate of Incorporation and Amended and Restated Bylaws provide that we will indemnify any Indemnatee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnatee is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnatee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that 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 us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnatee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred in connection therewith. Expenses must be advanced to an Indemnatee under certain circumstances.

As of the date of this prospectus, we have entered into separate indemnification agreements with each of our directors and executive officers. Each indemnification agreement provides, among other things, for indemnification to the fullest extent permitted by law and our Certificate of Incorporation against any and all expenses, judgments, fines, penalties and amounts paid in settlement of any claim. The indemnification agreements provide for the advancement or payment of all expenses to the indemnitee and for the reimbursement to us if it is found that such indemnitee is not entitled to such indemnification.

In addition, upon consummation of this offering, we intend to obtain a general liability insurance policy that covers certain liabilities of directors and officers of our corporation arising out of claims based on acts or omissions in their capacities as directors or officers.

In any underwriting agreement we enter into in connection with the sale of common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us within the meaning of the Securities Act against certain liabilities.

Item 15. Recent Sales of Unregistered Securities

None.

Item 16. Exhibits and Financial Statement Schedules

EXHIBIT INDEX

1.1	<u>Underwriting Agreement</u>
2.1	<u>Agreement and Plan of Merger, dated as of September 19, 2014, by and among AFH Acquisition X, Inc., Bone Biologics Acquisition Corp., and Bone Biologics, Inc. (incorporated herein by reference to Exhibit 2.1 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014)</u>
2.2	<u>Certificate of Merger as filed with the California Secretary of State effective September 19, 2014 (incorporated herein by reference to Exhibit 2.2 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014)</u>
3.1	<u>Amended and Restated Articles of Incorporation, of Bone Biologics Corporation, as filed with the Delaware Secretary of State on July 28, 2014 (incorporated herein by reference to Exhibit 3.1(i) to current report on Form 8-K, File No. 000-53078, filed September 25, 2014)</u>
3.2	<u>Certificate of Amendment as filed with the Delaware Secretary of State on October 18, 2021 (incorporated herein by reference to Exhibit 3.1 to current report on Form 8-K, File No. 000-53078, filed October 15, 2021)</u>
3.3	<u>Amended and Restated Bylaws of Bone Biologics Corporation (incorporated herein by reference to Exhibit 3.1 to current report on Form 8-K, File No. 000-53078, filed March 8, 2022)</u>
4.1	<u>Warrant Agent Agreement including Form of Warrant between the Company and Equiniti (incorporated by reference to Exhibit 10.42 to current report on Form S-1, File No. 000-53078, filed October 15, 2021)</u>
4.2	<u>Warrant Agent Agreement including Form of Series A Warrant, Form of Series B Warrant and Form of Series C Warrant between the Company and Equiniti (incorporated by reference to Exhibit 4.2 to current report on Form S-1, File No. 001-40899, filed September 23, 2022)</u>
4.3	<u>Form of Pre-Funded Warrant</u>
5.1	<u>Opinion of TroyGould PC</u>

10.1	<u>Director Offer Letter, dated July 1, 2014, by and between Bruce Stroeve and Bone Biologics Corporation (incorporated herein by reference to Exhibit 10.4 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014)</u>
10.2	<u>Chief Operating Officer Employment agreement, dated June 8, 2015, by and between Bone Biologics Corporation and Jeffrey Frelick (incorporated herein by reference to Exhibit 10.2 to current report on Form 10-Q, File No. 000-53078, filed August 14, 2015)</u>
10.3	<u>Letter Agreement, dated January 8, 2016, by and between the Company and the Founders (incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed January 11, 2016)</u>
10.4	<u>Bone Biologics Corporation Non-Employee Director Compensation Policy (incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016)</u>
10.5	<u>Bone Biologics Corporation 2015 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.3 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016)</u>
10.6	<u>Form of Stock Award Grant Notice and Stock Award Agreement for the Bone Biologics Corporation 2015 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.4 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016)</u>
10.7	<u>Form of Restricted Stock Unit Award (incorporated herein by reference to Exhibit 10.5 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016)</u>
10.8	<u>Option Agreement for the Distribution and Supply of Sygnal™ dated as of February 24, 2016 (incorporated herein by reference to Exhibit 10.3 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016)</u>
10.9	<u>Form of Indemnification Agreement (incorporated herein by reference to Exhibit 10.17 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014)</u>
10.10	<u>Amended and Restated Exclusive License Agreement, dated as of March 21, 2019, by and between the Company and The Regents of the University of California (incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed April 16, 2019)</u>
10.11	<u>First Amendment to the Amended License Agreement dated August 13, 2020 between the Company and the Regents of the University of California (incorporated herein by reference to Exhibit 10.40 to current report on Form S-1/A, File No. 000-53078, filed October 7, 2021)</u>
10.12	<u>Employment Agreement dated December 17, 2021 between the Company and Deina Walsh (incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed December 22, 2021)</u>
10.13	<u>Supply and Development Support Agreement dated March 3, 2022 between the Company and Musculoskeletal Transplant Foundation, Inc. (incorporated herein by reference to Exhibit 10.30 to current report on Form 10-K, File No. 000-53078, filed March 15, 2022)</u>
10.14	<u>Third Amendment to the Amended License Agreement dated June 8, 2022 between the Company and the Regents of the University of California (incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 001-40899, filed June 9, 2022)</u>
21.1	<u>List of Subsidiaries (incorporated herein by reference to Exhibit 21.1 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014)</u>
23.1	<u>Consent of Independent Registered Public Accounting Firm, Weinberg & Company, P.A.</u>
23.2	<u>Consent of TroyGould PC (included in Exhibit 5.1)</u>
24.1	<u>Power of Attorney (included on the signature page for the initial filing)</u>
107	<u>Filing Fees Exhibit</u>

Financial Statement Schedules

Schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings

(1) The undersigned registrant hereby undertakes:

- (a) 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;
 - (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 20 percent 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;
- (b) 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.
- (c) 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.

- (d) 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 hereby 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 (§ 230.424 of this chapter);
 - (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.
- (2) The undersigned registrant hereby 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.
- (3) The undersigned registrant hereby undertakes that:
- (a) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance on Rule 430A and contained in a form of prospectus filed by the undersigned registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective; and
 - (b) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (4) 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized in the Town of Burlington, State of Massachusetts, on June 6, 2023.

BONE BIOLOGICS CORPORATION

By: /s/ Jeffrey Frelick
Name: Jeffrey Frelick
Title: Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1934, this S-1 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Jeffrey Frelick</u> Jeffrey Frelick	Chief Executive Officer (Principal Executive Officer)	June 6, 2023
<u>/s/ Deina H. Walsh*</u> Deina H. Walsh	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	June 6, 2023
<u>/s/ Don R. Hankey*</u> Don R. Hankey	Director	June 6, 2023
<u>/s/ Bruce Stroever*</u> Bruce Stroever	Director	June 6, 2023
<u>/s/ Erick Lucera*</u> Erick Lucera	Director	June 6, 2023
<u>/s/ Siddhesh Angle*</u> Siddhesh Angle	Director	June 6, 2023

* Pursuant to power of attorney

By: /s/ Jeffrey Frelick
Attorney in fact

UNDERWRITING AGREEMENT
between
BONE BIOLOGICS CORPORATION and
EF HUTTON,
DIVISION OF BENCHMARK INVESTMENTS, LLC

New York, New York
June [●], 2023

EF HUTTON,
division of Benchmark Investments, LLC
590 Madison Avenue, 39th Floor
New York, New York 10022

Ladies and Gentlemen:

The undersigned, Bone Biologics Corporation, a corporation formed under the laws of the State of Delaware (the “**Company**”), hereby confirms its agreement (this “**Agreement**”) with EF Hutton, division of Benchmark Investments, LLC (hereinafter referred to as “you” (including its correlatives), “**EF Hutton**” or the “**Underwriter**”) as follows:

1. PURCHASE AND SALE OF SECURITIES.

1.1. Firm Securities.

1.1.1. Nature and Purchase of Firm Securities.

On the basis of the representations and warranties herein contained, but subject to the terms and conditions herein set forth, the Company agrees to issue and sell to the Underwriter an aggregate of [●] authorized but unissued shares (the “**Firm Shares**”) of common stock, par value \$0.001 per share, of the Company (the “**Common Stock**”) or pre-funded warrants (the “**Pre-Funded Warrants**”) to purchase shares of Common Stock in lieu thereof, each Pre-Funded Warrant exercisable for one share of Common Stock (the “**Pre-Funded Warrant Shares**”). The Firm Shares, the Pre-Funded Warrants and Pre-Funded Warrant Shares are collectively referred to herein as the “**Firm Securities**.” The Underwriter agrees to purchase from the Company the number of Firm Securities set forth on Schedule 1 attached hereto and made a part hereof, at a purchase price of \$[●] per Firm Share and Pre-Funded Warrants at an exercise price of \$0.0001 for each Firm Share. The Firm Securities are to be offered initially to the public at the offering price set forth on the cover page of the Prospectus (as defined in Section 2.1.1 hereof).

1.1.2. Payment and Delivery of Firm Securities.

(i) Delivery and payment for the Firm Securities shall be made at 10:00 a.m., Eastern time, on the second (2nd) Business Day following the effective date (the “**Effective Date**”) of the Registration Statement (as defined in Section 2.1.1 below) (or the third (3rd) Business Day following the Effective Date if the Registration Statement is declared effective after 4:01 p.m., Eastern time) or at such earlier time as shall be agreed upon by the Underwriter and the Company, at the offices of Lucosky Brookman LLP, 101 Wood Avenue South, 5th Floor, Woodbridge, NJ, 08830 (“**Underwriter’s Counsel**”), or at such other place (or remotely by facsimile or other electronic transmission) as shall be agreed upon by the Underwriter and the Company. The hour and date of delivery and payment for the Firm Securities is called the “**Closing Date**.”

(ii) Payment for the Firm Securities shall be made on the Closing Date by wire transfer in Federal (same day) funds, payable to the order of the Company upon delivery of the certificates (in form and substance satisfactory to the Underwriter) representing the Firm Securities. The Firm Securities shall be registered in such name or names and in such authorized denominations as the Underwriter may request in writing at least two (2) Business Days prior to the Closing Date. The term “**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 generally are open for use by customers on such day.

1.2. Over-allotment Option.

1.2.1. Option Shares. For the purposes of covering any over-allotments in connection with the distribution and sale of the Firm Shares, the Company hereby grants to the Underwriters an option to purchase up to [●] additional shares of Common Stock, representing fifteen percent (15%) of the Firm Shares sold in the offering, from the Company (the “**Over-allotment Option**”). Such [●] additional shares of Common Stock, the net proceeds of which will be deposited with the Company’s account, are hereinafter referred to as “**Option Shares**.” The purchase price to be paid per Option Share shall be equal to the price per Firm Share set forth in Section 1.1.1 hereof. The Firm Shares and the Option Shares are hereinafter referred to together as the “**Public Securities**.” The offering and sale of the Public Securities is hereinafter referred to as the “**Offering**.”

1.2.2. Exercise of Option. The Over-allotment Option granted pursuant to Section 1.2.1 hereof may be exercised by the Underwriter as to all (at any time) or any part (from time to time) of the Option Shares within 45 days after the Effective Date. The Underwriters shall not be under any obligation to purchase any Option Shares prior to the exercise of the Over-allotment Option. The Over-allotment Option granted hereby may be exercised by the giving of oral notice to the Company from the Underwriter, which must be confirmed in writing by overnight mail or facsimile or other electronic transmission setting forth the number of Option Shares to be purchased and the date and time for delivery of and payment for the Option Shares (the “**Option Closing Date**”), which shall not be later than the third (3rd) full Business Days after the date of the notice or such other time as shall be agreed upon by the Company and the Underwriter, at the offices of Underwriter’s Counsel or at such other place (including remotely by facsimile or other electronic transmission) as shall be agreed upon by the Company and the Underwriter. If such delivery and payment for the Option Shares does not occur on the Closing Date, the Option Closing Date will be as set forth in the notice. Upon exercise of the Over-allotment Option with respect to all or any portion of the Option Shares, subject to the terms and conditions set forth herein, (i) the Company shall become obligated to sell to the Underwriters the number of Option Shares specified in such notice and (ii) each of the Underwriters, acting severally and not jointly, shall purchase that portion of the total number of Option Shares then being purchased as set forth in Schedule 1 opposite the name of such Underwriter.

1.2.3. Payment and Delivery. Payment for the Option Shares shall be made on the Option Closing Date by wire transfer in Federal (same day) funds, payable to the order of the Company upon delivery to you of certificates (in form and substance satisfactory to the Underwriters) representing the Option Shares for the account of the Underwriters. The Option Shares shall be registered in such name or names and in such authorized denominations as the Underwriter may request in writing at least one (1) full Business Day prior to the Option Closing Date. The Company shall not be obligated to sell or deliver the Option Shares except upon tender of payment by the Underwriter for applicable Option Shares.

2. REPRESENTATIONS AND WARRANTIES OF THE COMPANY.

The Company represents and warrants to the Underwriter as of the Applicable Time (as defined below), as of the Closing Date and as of the Option Closing Date, if any, as follows:

2.1. Filing of Registration Statement.

2.1.1. Pursuant to the Securities Act. The Company has filed with the U.S. Securities and Exchange Commission (the “**Commission**”) a registration statement, and any amendment or amendments thereto, on Form S-1 (File No. 333- 271558), including any related prospectus or prospectuses, for the registration of the Public Securities under the Securities Act of 1933, as amended (the “**Securities Act**”). Except as the context may otherwise require, such registration statement, as amended, on file with the Commission at the time the registration statement became effective (including the Preliminary Prospectus included in the registration statement, financial statements, schedules, exhibits and all other documents filed as a part thereof or incorporated therein and all information deemed to be a part thereof as of the Effective Date pursuant to paragraph (b) of Rule 430A (the “**Rule 430A Information**”) of the rules and regulations of the Commission promulgated thereunder (the “**Securities Act Regulations**”), is referred to herein as the “**Registration Statement**.” If the Company files any registration statement pursuant to Rule 462(b) of the Securities Act Regulations, then after such filing, the term “**Registration Statement**” shall include such registration statement filed pursuant to Rule 462(b). The Registration Statement has been declared effective by the Commission on the date hereof.

Each prospectus used prior to the effectiveness of the Registration Statement, and each prospectus that omitted the Rule 430A Information that was used after such effectiveness and prior to the execution and delivery of this Agreement, is herein called a “**Preliminary Prospectus**.” The Preliminary Prospectus, subject to completion, dated June [•], 2023, that was included in the Registration Statement immediately prior to the Applicable Time is hereinafter called the “**Pricing Prospectus**.” The final prospectus in the form first furnished to the Underwriter for use in the Offering, that includes the Rule 430A Information, is hereinafter called the “**Prospectus**.” Any reference to the “most recent Preliminary Prospectus” shall be deemed to refer to the latest Preliminary Prospectus included in the Registration Statement.

“**Applicable Time**” means 4:00 p.m., Eastern time, on the date of this Agreement.

“**Issuer Free Writing Prospectus**” means any “issuer free writing prospectus,” as defined in Rule 433 of the Securities Act Regulations (“**Rule 433**”), including without limitation any “free writing prospectus” (as defined in Rule 405 of the Securities Act Regulations) relating to the Public Securities that is (i) required to be filed with the Commission by the Company, (ii) a “road show that is a written communication” within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission, or (iii) exempt from filing with the Commission pursuant to Rule 433(d)(5)(i) because it contains a description of the Public Securities or of the Offering that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g).

“**Issuer General Use Free Writing Prospectus**” means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors (other than a “*bona fide* electronic road show,” as defined in Rule 433 (the “**Bona Fide Electronic Road Show**”)), as evidenced by its being specified in Schedule 2-B hereto.

“**Issuer Limited Use Free Writing Prospectus**” means any Issuer Free Writing Prospectus that is not an Issuer General Use Free Writing Prospectus.

“**Pricing Disclosure Package**” means any Issuer General Use Free Writing Prospectus issued at or prior to the Applicable Time, the Pricing Prospectus and the information included on Schedule 2-A hereto, all considered together.

2.1.2. Pursuant to the Exchange Act. The Company has filed with the Commission a Form 8-A (File Number 001-40899) providing for the registration of the Common Stock pursuant to Section 12(b) under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”). The registration of Common Stock under the Exchange Act has been declared effective by the Commission on or prior to the date hereof. The Company has taken no action designed to, or likely to have the effect of, terminating the registration of the shares of Common Stock under the Exchange Act, nor has the Company received any notification that the Commission is contemplating terminating such registration.

2.2. **Stock Exchange Listing**. The Firm Securities and the Company’s Common Stock have been approved for listing on The Nasdaq Capital Market (the “**Exchange**”), and the Company has taken no action designed to, or likely to have the effect of, delisting the shares of Common Stock from the Exchange.

2.3. No Stop Orders, etc. Neither the Commission nor, to the Company’s knowledge, any state regulatory authority has issued any order preventing or suspending the use of the Registration Statement, any Preliminary Prospectus or the Prospectus or has instituted or, to the Company’s knowledge, threatened to institute, any proceedings with respect to such an order. The Company has complied with each request (if any) from the Commission for additional information.

2.4. Disclosures in Registration Statement.

2.4.1. Compliance with Securities Act and 10b-5 Representation.

(i) Each of the Registration Statement and any post-effective amendment thereto, at the time it became effective, complied in all material respects with the requirements of the Securities Act and the Securities Act Regulations. Each Preliminary Prospectus, including the prospectus filed as part of the Registration Statement as originally filed or as part of any amendment or supplement thereto, and the Prospectus, at the time each was filed with the Commission, complied in all material respects with the requirements of the Securities Act and the Securities Act Regulations. Each Preliminary Prospectus delivered to the Underwriter for use in connection with this Offering and the Prospectus was or will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to the Commission’s EDGAR filing system (“EDGAR”), except to the extent permitted by Regulation S-T promulgated under the Securities Act (“**Regulation S-T**”).

(ii) Neither the Registration Statement nor any amendment thereto, at its effective time, as of the Applicable Time, at the Closing Date or at any Option Closing Date (if any), contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading.

(iii) The Pricing Disclosure Package, as of the Applicable Time, at the Closing Date or at any Option Closing Date (if any), did not, does not and will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and each Issuer Limited Use Free Writing Prospectus hereto does not conflict in any material respect with the information contained in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, and each such Issuer Limited Use Free Writing Prospectus, as supplemented by and taken together with the Pricing Prospectus as of the Applicable Time, did not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading; provided, however, that this representation and warranty shall not apply to statements made or statements omitted in reliance upon and in conformity with written information furnished to the Company by the Underwriter expressly for use in the Registration Statement, the Pricing Prospectus or the Prospectus or any amendment thereof or supplement thereto. The parties acknowledge and agree that such information provided by or on behalf of the Underwriter consists solely of the following disclosure contained in the “Underwriting” section of the Prospectus: the name of the Underwriter and the information under the subheadings titled “Other”, “Price Stabilization, Short Positions, and Penalty Bids” and “Electronic Distribution” (the “**Underwriter’s Information**”).

(iv) Neither the Prospectus nor any amendment or supplement thereto (including any prospectus wrapper), as of its issue date, at the time of any filing with the Commission pursuant to Rule 424(b), at the Closing Date or at any Option Closing Date, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that this representation and warranty shall not apply to the Underwriter’s Information.

2.4.2. Disclosure of Agreements. The agreements and documents described in the Registration Statement, the Pricing Disclosure Package and the Prospectus conform in all material respects to the descriptions thereof contained therein and there are no agreements or other documents required by the Securities Act and the Securities Act Regulations to be described in the Registration Statement, the Pricing Disclosure Package and the Prospectus or to be filed with the Commission as exhibits to the Registration Statement, that have not been so described or filed. Each agreement or other instrument (however characterized or described) to which the Company is a party or by which it is or may be bound or affected and (i) that is referred to in the Registration Statement, the Pricing Disclosure Package and the Prospectus, or (ii) is material to the Company's business, has been duly authorized and validly executed by the Company, is in full force and effect in all material respects and is enforceable against the Company and, to the Company's knowledge, the other parties thereto, in accordance with its terms, except (x) as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally, (y) as enforceability of any indemnification or contribution provision may be limited under the federal and state securities laws, and (z) that the remedy of specific performance and injunctive and other forms of equitable relief may be subject to the equitable defenses and to the discretion of the court before which any proceeding therefor may be brought, and except for any unenforceability that, individually or in the aggregate, would not reasonably be expected to result in a Material Adverse Change (as defined in Section 2.5.1 below). None of such agreements or instruments has been assigned by the Company, and neither the Company nor, to the Company's knowledge, any other party is in material default thereunder and, to the Company's knowledge, no event has occurred that, with the lapse of time or the giving of notice, or both, would constitute a default thereunder except for such defaults that would not reasonably be expected to result in a Material Adverse Change (as defined in Section 2.5.1 below). To the Company's knowledge, performance by the Company of the material provisions of such agreements or instruments will not result in a violation of any existing applicable law, rule, regulation, judgment, order or decree of any governmental or regulatory agency, authority, body, entity or court, domestic or foreign, having jurisdiction over the Company or any of its assets or businesses (each, a "**Governmental Entity**" and collectively, "**Governmental Entities**"), including, without limitation, those relating to environmental laws and regulations, that, individually or in the aggregate, would not reasonably be expected to result in a Material Adverse Change as defined in Section 2.5.1 below.

2.4.3. Regulations. The disclosures in the Registration Statement, the Pricing Disclosure Package and the Prospectus concerning the effects of federal, state, local and all foreign laws, rules and regulations relating to the Offering and the Company's business as currently conducted or contemplated are correct and complete in all material respects and no other such laws, rules or regulations are required under the Securities Act and the Securities Act Regulations to be disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus which are not so disclosed.

2.4.4. No Other Distribution of Offering Materials. The Company has not, directly or indirectly, distributed and will not distribute any offering material in connection with the Offering other than any Preliminary Prospectus, any Issuer Free Writing Prospectus, the Prospectus and other materials, if any, permitted under the Securities Act and consistent with Section 3.2 below.

2.5. Changes After Dates in Registration Statement.

2.5.1. No Material Adverse Change. Since the respective dates as of which information is given in the Registration Statement, the Pricing Disclosure Package and the Prospectus, except as otherwise specifically stated therein: (i) there has been no material adverse change in the financial position or results of operations of the Company, nor to the Company's knowledge, any change or development that, singularly or in the aggregate, would reasonably be expected to result in a material adverse change, in or affecting the condition (financial or otherwise), results of operations, business or assets of the Company (a "**Material Adverse Change**"); (ii) there have been no material transactions entered into by the Company, other than as contemplated pursuant to this Agreement; and (iii) no officer or director of the Company has resigned from any position with the Company.

2.5.2. Recent Securities Transactions, etc. Subsequent to the respective dates as of which information is given in the Registration Statement, the Pricing Disclosure Package and the Prospectus, and except as may otherwise be indicated or contemplated herein or disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has not: (i) issued any securities or incurred any liability or obligation, direct or contingent, for borrowed money; or (ii) declared or paid any dividend or made any other distribution on or in respect to its capital stock.

2.6. Independent Accountants. Weinberg & Company, P.A. (the "**Auditor**"), whose report is filed with the Commission as part of the Registration Statement, the Pricing Disclosure Package and the Prospectus, is an independent registered public accounting firm as required by the Securities Act and the Securities Act Regulations and the Public Company Accounting Oversight Board. The Auditor has not, during the periods covered by the financial statements included in the Registration Statement, the Pricing Disclosure Package and the Prospectus, provided to the Company any non-audit services, as such term is used in Section 10A(g) of the Exchange Act.

2.7. Financial Statements, etc. The financial statements, including the notes thereto and supporting schedules included in the Registration Statement, the Pricing Disclosure Package and the Prospectus, fairly present in all material respects the financial position and the results of operations of the Company at the dates and for the periods to which they apply; and such financial statements have been prepared in conformity with U.S. generally accepted accounting principles (“GAAP”), consistently applied throughout the periods involved (provided that unaudited interim financial statements are subject to year-end audit adjustments that are not expected to be material in the aggregate and do not contain all footnotes required by GAAP); and the supporting schedules included in the Registration Statement present fairly in all material respects the information required to be stated therein. Except as included therein, no historical or pro forma financial statements are required to be included in the Registration Statement, the Pricing Disclosure Package or the Prospectus under the Securities Act or the Securities Act Regulations. The pro forma and pro forma as adjusted financial information and the related notes, if any, included in the Registration Statement, the Pricing Disclosure Package and the Prospectus have been properly compiled and prepared in accordance with the applicable requirements of the Securities Act and the Securities Act Regulations and present fairly in all material respects the information shown therein, and the assumptions used in the preparation thereof are reasonable and the adjustments used therein are appropriate to give effect to the transactions and circumstances referred to therein. All disclosures contained in the Registration Statement, the Pricing Disclosure Package or the Prospectus regarding “non-GAAP financial measures” (as such term is defined by the rules and regulations of the Commission), if any, comply in all material respects with Regulation G of the Exchange Act and Item 10 of Regulation S-K of the Securities Act, to the extent applicable. Each of the Registration Statement, the Pricing Disclosure Package and the Prospectus discloses all material off-balance sheet transactions, arrangements, obligations (including contingent obligations), and other relationships of the Company with unconsolidated entities or other persons that may have a material current or future effect on the Company’s financial condition, changes in financial condition, results of operations, liquidity, capital expenditures, capital resources, or significant components of revenues or expenses. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (a) since the date of the last balance sheet included in the Registration Statement, the Pricing Disclosure Package and the Prospectus, neither the Company nor any of its direct and indirect subsidiaries, including each entity disclosed or described in the Registration Statement, the Pricing Disclosure Package and the Prospectus as being a subsidiary of the Company (each a “Subsidiary” and, collectively, the “Subsidiaries”) has incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions other than in the ordinary course of business, (b) the Company has not declared or paid any dividends or made any distribution of any kind with respect to its capital stock, (c) there has not been any change in the capital stock of the Company, or, other than in the ordinary course of business, any grants under any stock compensation plan, and (d) there has not been any Material Adverse Change in the Company’s long-term or short-term debt.

2.8. Authorized Capital; Options, etc. The Company had, at the date or dates indicated in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the duly authorized, issued and outstanding capitalization as set forth therein. Based on the assumptions stated in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company will have on the Closing Date the adjusted capitalization set forth therein. Except as set forth in, or contemplated by, the Registration Statement, the Pricing Disclosure Package and the Prospectus, on the Effective Date, as of the Applicable Time and on the Closing Date and any Option Closing Date, there will be no stock options, warrants, or other rights to purchase or otherwise acquire any authorized, but unissued shares of Common Stock of the Company or any security convertible or exercisable into shares of Common Stock of the Company, or any contracts or commitments to issue or sell shares of Common Stock or any such options, warrants, rights or convertible securities.

2.9. Valid Issuance of Securities, etc.

2.9.1. Outstanding Securities. All issued and outstanding securities of the Company issued prior to the transactions contemplated by this Agreement have been duly authorized and validly issued and are fully paid and non-assessable; the holders thereof have no rights of rescission or the ability to force the Company to repurchase such securities with respect thereto, and are not subject to personal liability by reason of being such holders; and none of such securities were issued in violation of the preemptive rights, rights of first refusal or rights of participation of any holders of any security of the Company or similar contractual rights granted by the Company. The authorized shares of Common Stock conform in all material respects to all statements relating thereto contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus. The offers and sales of the outstanding shares of Common Stock, options, warrants and other outstanding securities convertible into or exercisable for shares of Common Stock, were at all relevant times either registered under the Securities Act and the applicable state securities or “blue sky” laws or, based in part on the representations and warranties of the purchasers of such shares of Common Stock, exempt from such registration requirements. The description of the Company’s stock option, stock bonus and other related plans or arrangements, and options and/or other rights granted thereunder, as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, accurately and fairly present, in all material respects, the information required to be shown with respect to such plans, arrangements, options and rights.

2.9.2. Securities Sold Pursuant to this Agreement. The Public Securities have been duly authorized for issuance and sale and, when issued and paid for, will be validly issued, fully paid and non-assessable; the holders thereof are not and will not be subject to personal liability by reason of being such holders; the Public Securities are not and will not be subject to the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company; and all corporate action required to be taken for the authorization, issuance and sale of the Public Securities has been duly and validly taken. The Public Securities conform in all material respects to all statements with respect thereto contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

2.10. Registration Rights of Third Parties. Except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus, no holders of any securities of the Company or any options, warrants, rights or other securities exercisable for or convertible or exchangeable into securities of the Company have the right to require the Company to register any such securities of the Company under the Securities Act or to include any such securities in the Registration Statement or any other registration statement to be filed by the Company.

2.11. Validity and Binding Effect of Agreements. The execution, delivery and performance of this Agreement has been duly and validly authorized by the Company.

2.12. No Conflicts, etc. The execution, delivery and performance by the Company of this Agreement, and all ancillary documents, the consummation by the Company of the transactions herein and therein contemplated and the compliance by the Company with the terms hereof and thereof do not and will not, with or without the giving of notice or the lapse of time or both: (i) result in a breach of, or conflict with any of the terms and provisions of, or constitute a default under, or result in the creation, modification, termination or imposition of any lien, charge or encumbrance upon any property or assets of the Company pursuant to the terms of any indenture, mortgage, deed of trust, loan agreement or any other agreement or instrument to which the Company is a party or as to which any property of the Company is a party except breaches, conflicts or defaults that would not reasonably be expected to result in a Material Adverse Change; (ii) result in any violation of the provisions of the Company's Articles of Incorporation (as the same have been amended or restated from time to time, the "**Charter**") or the bylaws of the Company (the "**Bylaws**"); or (iii) violate in any material respect any existing applicable law, rule, regulation, judgment, order or decree of any Governmental Entity as of the date hereof having jurisdiction over the Company.

2.13. No Defaults; Violations. Except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus, no default exists in the due performance and observance of any term, covenant or condition of any license, contract, indenture, mortgage, deed of trust, note, loan or credit agreement, or any other agreement or instrument evidencing an obligation for borrowed money, or any other agreement or instrument to which the Company is a party or by which the Company may be bound or to which any of the properties or assets of the Company is subject except for any such default that would not be reasonably expected to result in a Material Adverse Change. The Company is not in violation of any term or provision of its Charter or Bylaws, or in violation of any franchise, license, permit, applicable law, rule, regulation, judgment or decree of any Governmental Entity, except for such violations that would not be reasonably expected to result in a Material Adverse Change.

2.14. Corporate Power; Licenses; Consents.

2.14.1. Conduct of Business. Except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has all requisite corporate power and authority, and has all consents, authorizations, approvals, licenses, certificates, clearances, permits and orders and supplements and amendments thereto (each an "**Authorization**", and collectively, "**Authorizations**") of and from all Governmental Entities that (i) it needs as of the date hereof to conduct its business purpose as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, and (ii) the absence of which would reasonably be expected to have a Material Adverse Change.

2.14.2. Transactions Contemplated Herein. The Company has all corporate power and authority to enter into this Agreement and to carry out the provisions and conditions hereof and thereof, and all Authorizations required in connection therewith have been obtained. No Authorization of, and no filing with, any Governmental Entity or another body is required for the valid issuance, sale and delivery of the Public Securities and the consummation of the transactions and agreements contemplated by this Agreement and as contemplated by the Registration Statement, the Pricing Disclosure Package and the Prospectus, except with respect to applicable Securities Act and Securities Act Regulations, the necessary filings and approvals from the Exchange to list the Public Securities, state or foreign securities laws and the rules and regulations of the Financial Industry Regulatory Authority, Inc. (“FINRA”), such consents and approvals as have been obtained and are in full force and effect, and such consents, approvals, orders, authorizations and filings the failure of which to make or obtain is not reasonably likely to result in a Material Adverse Change.

2.15. D&O Questionnaires. To the Company’s knowledge, all information contained in the questionnaires (the “Questionnaires”) completed by each of the Company’s directors and officers immediately prior to the Offering (the “Insiders”) as supplemented by all information concerning the Insiders as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus provided to the Underwriter, is true and correct in all material respects and the Company has not become aware of any information which would cause the information disclosed in the Questionnaires to become materially inaccurate and incorrect.

2.16. Litigation; Governmental Proceedings. There is no action, suit, proceeding, inquiry, arbitration, investigation, litigation or governmental proceeding pending or, to the Company’s knowledge, threatened against, or involving the Company or, to the Company’s knowledge, any executive officer or director which has not been disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, or in connection with the Company’s listing application for the listing of the Common Stock on the Exchange that, individually or in the aggregate, would reasonably be expected to result in a Material Adverse Change or materially and adversely affect the power or ability of the Company to perform its obligations under this Agreement or to consummate the transactions contemplated herein.

2.17. Good Standing. The Company has been duly incorporated and is validly existing as a corporation and is in good standing under the laws of the State of Delaware as of the date hereof, and is duly qualified to do business and is in good standing in each other jurisdiction in which its ownership or lease of property or the conduct of business requires such qualification, except where the failure to qualify, singularly or in the aggregate, would not have or reasonably be expected to result in a Material Adverse Change.

2.18. Insurance. The Company carries or is entitled to the benefits of insurance (including, without limitation, as to director and officer insurance coverage), with reputable insurers, in such amounts and covering such risks which the Company believes are adequate as are customary for companies engaged in similar business, and to the Company’s knowledge all such insurance is in full force and effect. The Company has no reason to believe that it will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not reasonably be expected to result in a Material Adverse Change.

2.19. Transactions Affecting Disclosure to FINRA.

2.19.1. Finder’s Fees. Except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, there are no claims, payments, arrangements, agreements or understandings relating to the payment of a finder’s, consulting or origination fee by the Company or any Insider with respect to the sale of the Public Securities hereunder or any other arrangements, agreements or understandings of the Company or, to the Company’s knowledge, any of its stockholders that may affect the Underwriter’s compensation, as determined by FINRA.

2.19.2. Payments Within Twelve (12) Months. Except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has not made any direct or indirect payments in connection with the Offering (in cash, securities or otherwise) to: (i) any person, as a finder's fee, consulting fee or otherwise, in consideration of such person raising capital for the Company or introducing to the Company persons who raised or provided capital to the Company; (ii) any FINRA member; or (iii) any person or entity that has any direct or indirect affiliation or association with any FINRA member, within the twelve (12) months prior to the Effective Date, other than the payment to the Underwriter as provided hereunder in connection with the Offering.

2.19.3. Use of Proceeds. None of the net proceeds of the Offering will be paid by the Company to any participating FINRA member or its affiliates, except as specifically authorized herein.

2.19.4. FINRA Affiliation. There is no (i) officer or director of the Company, (ii) beneficial owner of 5% or more of any class of the Company's securities or (iii) beneficial owner of the Company's unregistered equity securities which were acquired during the 180-day period immediately preceding the filing of the Registration Statement that is an affiliate or associated person of a FINRA member participating in the Offering (as determined in accordance with the rules and regulations of FINRA).

2.19.5. Information. All information provided by the Company in its FINRA questionnaire to Underwriter's Counsel specifically for use by Underwriter's Counsel in connection with its Public Offering System filings (and related disclosure) with FINRA is true, correct and complete in all material respects.

2.20. Foreign Corrupt Practices Act. None of the Company or, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company or any other person acting on behalf of, and with authority from, the Company, has, directly or indirectly, given or agreed to give any money, gift or similar benefit (other than legal price concessions to customers in the ordinary course of business) to any customer, supplier, employee or agent of a customer or supplier, or official or employee of any Governmental Entity (domestic or foreign) or any political party or candidate for office (domestic or foreign) or other person who was, is, or may be in a position to help or hinder the business of the Company (or assist it in connection with any actual or proposed transaction) that could reasonably be expected to (i) subject the Company to any damage or penalty in any civil, criminal or governmental litigation or proceeding, (ii) if not given in the past, have had a Material Adverse Change or (iii) if not continued in the future, adversely affect the assets, business, operations or prospects of the Company. The Company has taken reasonable steps to ensure that its accounting controls and procedures are sufficient to cause the Company to comply in all material respects with the Foreign Corrupt Practices Act of 1977, as amended.

2.21. Compliance with OFAC. None of the Company or, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company or any other person acting on behalf of, and with authority from, the Company, is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury ("OFAC"), and the Company will not, directly or indirectly, use the proceeds of the Offering hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

2.22. Money Laundering Laws. The operations of the Company are and have been conducted at all times in compliance in all material respects with applicable financial recordkeeping and reporting requirements of the Bank Secrecy Act of 1970, as amended, the money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Entity (collectively, the "**Money Laundering Laws**"); and no action, suit or proceeding by or before any Governmental Entity involving the Company with respect to the Money Laundering Laws is pending or, to the best knowledge of the Company, threatened.

2.23. Officers' Certificate. Any certificate signed by any duly authorized officer of the Company and delivered to the Underwriter or to Underwriter's Counsel on the Closing Date or on the Option Closing Date shall be deemed a representation and warranty by the Company to the Underwriter as to the matters covered thereby.

2.24. Lock-Up Agreements. Schedule 3 hereto contains a complete and accurate list of the Company's officers, directors and each owner of record of 5% or more of the Company's outstanding shares of Common Stock, including securities convertible or exercisable into shares of Common Stock on an as-converted basis (collectively, the "**Lock-Up Parties**"). The Company has caused each of the Lock-Up Parties to deliver to the Underwriter an executed Lock-Up Agreement, in a form substantially similar to that attached hereto as Exhibit B (the "**Lock-Up Agreement**"), prior to the execution of this Agreement.

2.25. Subsidiaries. The Company has duly disclosed all direct or indirect subsidiaries or entity required to be disclosed or described in the Registration Statement, the Pricing Disclosure Package and the Prospectus as being a subsidiary of the Company.

2.26. Related Party Transactions. There are no business relationships or related party transactions involving the Company or any other person required to be described in the Registration Statement, the Pricing Disclosure Package and the Prospectus that have not been described as required under the Securities Act and the Securities Act Regulations.

2.27. Board of Directors. The Board of Directors of the Company is comprised of the persons set forth under the heading of the Pricing Prospectus and the Prospectus captioned “Management.” The qualifications of the persons serving as board members and the overall composition of the board comply with the Exchange Act, the rules and regulations of the Commission promulgated thereunder (the “**Exchange Act Regulations**”), the Sarbanes-Oxley Act of 2002 and the rules promulgated thereunder (the “**Sarbanes-Oxley Act**”) applicable to the Company and the listing rules of the Exchange. At least one member of the Audit Committee of the Board of Directors of the Company qualifies as an “audit committee financial expert,” as such term is defined under Regulation S-K and the listing rules of the Exchange. In addition, at least a majority of the persons serving on the Board of Directors qualify as “independent,” as defined under the listing rules of the Exchange.

2.28. Sarbanes-Oxley Compliance.

2.28.1. Disclosure Controls. The Company has designed a system of “disclosure controls and procedures” (as defined in Rule 13a-15(e) under the Exchange Act Regulations) that will comply with the requirements of the Exchange Act within the time period required and has been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission’s rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company’s management as appropriate to allow timely decisions regarding required disclosure.

2.28.2. Compliance. The Company is and at the Applicable Time and on the Closing Date will be, in material compliance with the provisions of the Sarbanes-Oxley Act that are then in effect and with which the Company is required to comply with as of the Applicable Time or on the Closing Date, and has taken reasonable steps to ensure the Company’s future compliance (not later than the relevant statutory and regulatory deadlines therefor) with all of the material provisions of the Sarbanes-Oxley Act then applicable to the Company.

2.29. Accounting Controls. The Company maintains systems of “internal control over financial reporting” (as defined under Rules 13a-15 and 15d-15 under the Exchange Act Regulations) that comply in all material respects with the requirements of the Exchange Act and have been designed by, or under the supervision of, its principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, including, but not limited to, internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management’s general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company is not aware of any material weaknesses in its internal controls. To the Company’s knowledge, the Company’s auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are known to the Company’s management and that have adversely affected or are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and (ii) any fraud known to the Company’s management, whether or not material, that involves management or other employees who have a significant role in the Company’s internal controls over financial reporting.

2.30. No Investment Company Status. The Company is not and, after giving effect to the Offering and the application of the proceeds thereof as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, will not be, required to register as an “investment company,” as defined in the Investment Company Act of 1940, as amended.

2.31. No Labor Disputes. No labor dispute with the employees of the Company exists or, to the knowledge of the Company, is imminent. The Company is not aware that any officer, key employee or significant group of employees of the Company plans to terminate employment with the Company.

2.32. Intellectual Property Rights. The Company owns or possesses or has valid rights to use all patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, copyrights, licenses, inventions, trade secrets and similar rights (“**Intellectual Property Rights**”) necessary for the conduct of the business of the Company as currently carried on and as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, except where the failure to own, possess or have valid rights to use any of the foregoing would not reasonably be expected to result in a Material Adverse Change on the Company. To the knowledge of the Company, no action or use by the Company necessary for the conduct of its business as currently carried on and as described in the Registration Statement and the Prospectus would reasonably be expected to involve or give rise to any infringement of, or license or similar fees for, any Intellectual Property Rights of others. The Company has not received any notice alleging any such infringement, fee or conflict with asserted Intellectual Property Rights of others. Except as would not reasonably be expected to result, individually or in the aggregate, in a Material Adverse Change: (A) to the knowledge of the Company, there is no infringement, misappropriation or violation by third parties of any of the Intellectual Property Rights owned by the Company; (B) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the rights of the Company in or to any such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (C) the Intellectual Property Rights owned by the Company and, to the knowledge of the Company, the Intellectual Property Rights licensed to the Company have not been adjudged by a court of competent jurisdiction invalid or unenforceable, in whole or in part, and there is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (D) there is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others that the Company infringes, misappropriates or otherwise violates any Intellectual Property Rights or other proprietary rights of others, the Company has not received any written notice of such claim and the Company is unaware of any other facts which would form a reasonable basis for any such claim; and (E) to the Company’s knowledge, no employee of the Company is in or has ever been in violation in any material respect of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee’s employment with the Company, or actions undertaken by the employee while employed with the Company. To the Company’s knowledge, all material technical information developed by and belonging to the Company which has not been patented has been kept confidential. The Company is not a party to or bound by any options, licenses or agreements with respect to the Intellectual Property Rights of any other person or entity that are required to be set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus and are not described therein. The Registration Statement, the Pricing Disclosure Package and the Prospectus contain in all material respects the same description of the matters set forth in the preceding sentence. None of the technology employed by the Company has been obtained or is being used by the Company in violation of any contractual obligation binding on the Company or, to the Company’s knowledge, any of its officers, directors or employees, or otherwise in violation of the rights of any persons.

2.33. Taxes. The Company has filed all returns (as hereinafter defined) required to be filed with taxing authorities prior to the date hereof or has duly obtained extensions of time for the filing thereof. The Company has paid all taxes (as hereinafter defined) shown as due on such returns that were filed and has paid all taxes imposed on or assessed against the Company except those that are being contested in good faith or as would not have, individually or in the aggregate, result in a Material Adverse Change. The provisions for taxes payable, if any, shown on the financial statements filed with or as part of the Registration Statement are sufficient for all accrued and unpaid taxes, whether or not disputed, and for all periods to and including the dates of such consolidated financial statements. Except as disclosed in writing to the Underwriter, (i) no material issues have been raised (and are currently pending) by any taxing authority in connection with any of the returns or taxes asserted as due from the Company, and (ii) no waivers of statutes of limitation with respect to the returns or collection of taxes have been given by or requested from the Company. To the Company's knowledge, there are no tax liens against the assets, properties or business of the Company. The term "**taxes**" means all federal, state, local, foreign and other net income, gross income, gross receipts, sales, use, ad valorem, transfer, franchise, profits, license, lease, service, service use, withholding, payroll, employment, excise, severance, stamp, occupation, premium, property, windfall profits, customs, duties or other taxes, fees, assessments or charges of any kind whatever, together with any interest and any penalties, additions to tax or additional amounts with respect thereto. The term "**returns**" means all returns, declarations, reports, statements and other documents required to be filed in respect to taxes.

2.34. ERISA Compliance. The Company and any "employee benefit plan" (as defined under the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder (collectively, "**ERISA**")) established or maintained by the Company or its "ERISA Affiliates" (as defined below) are in compliance in all material respects with ERISA. "**ERISA Affiliate**" means, with respect to the Company, any member of any group of organizations described in Sections 414(b), (c), (m) or (o) of the Internal Revenue Code of 1986, as amended, and the regulations and published interpretations thereunder (the "**Code**") of which the Company is a member. No "reportable event" (as defined under ERISA) has occurred or is reasonably expected to occur with respect to any "employee benefit plan" established or maintained by the Company or any of its ERISA Affiliates. No "employee benefit plan" established or maintained by the Company or any of its ERISA Affiliates, if such "employee benefit plan" were terminated, would have any "amount of unfunded benefit liabilities" (as defined under ERISA). Neither the Company nor any of its ERISA Affiliates has incurred or reasonably expects to incur any material liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any "employee benefit plan" or (ii) Sections 412, 4971, 4975 or 4980B of the Code. Each "employee benefit plan" established or maintained by the Company or any of its ERISA Affiliates that is intended to be qualified under Section 401(a) of the Code is so qualified and, to the knowledge of the Company, nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification.

2.35. Compliance with Laws. The Company: (A) is and at all times has been in compliance with all statutes, rules, or regulations applicable to the business of the Company as currently conducted ("**Applicable Laws**"), except as could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Change; (B) has not received any warning letter, untitled letter or other correspondence or written notice from any Governmental Entity alleging or asserting noncompliance with any Applicable Laws or any Authorizations; (C) possesses all Authorizations and such Authorizations are valid and in full force and effect and are not in violation of any term of any such Authorizations, except where the invalidity of such Authorizations or the failure of such Authorizations to be in full force and effect would not result in a Material Adverse Change; (D) has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any Governmental Entity or third party alleging that any activity conducted by the Company is in violation of any Applicable Laws or Authorizations and has no knowledge that any such Governmental Entity or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding that if brought, would result in a Material Adverse Result, nor, to the Company's knowledge, has there been any material noncompliance with or violation of any Applicable Laws by the Company that could reasonably be expected to require the issuance of any such communication or result in an investigation, corrective action, or enforcement action by any Governmental Entity; (E) has not received written notice that any Governmental Entity has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations and has no knowledge that any such Governmental Entity is considering such action; and (F) has filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct on the date filed (or were corrected or supplemented by a subsequent submission), except where the failure to be so in compliance would not, individually or in the aggregate, result in a Material Adverse Change.

2.36. Environmental Laws. The Company is in compliance with all foreign, federal, state and local rules, laws and regulations relating to the use, treatment, storage and disposal of hazardous or toxic substances or waste and protection of health and safety or the environment which are applicable to their businesses (“**Environmental Laws**”), except where the failure to comply would not, singularly or in the aggregate, result in a Material Adverse Change. There has been no storage, generation, transportation, handling, treatment, disposal, discharge, emission, or other release of any kind of toxic or other wastes or other hazardous substances by, due to, or caused by the Company (or, to the Company’s knowledge, any other entity for whose acts or omissions the Company is or may otherwise be liable) upon any of the property now or previously owned or leased by the Company, or upon any other property, in violation of any law, statute, ordinance, rule, regulation, order, judgment, decree or permit or which would, under any law, statute, ordinance, rule (including rule of common law), regulation, order, judgment, decree or permit, give rise to any liability, except for any violation or liability which would not have, singularly or in the aggregate with all such violations and liabilities, a Material Adverse Change; and there has been no disposal, discharge, emission or other release of any kind onto such property or into the environment surrounding such property of any toxic or other wastes or other hazardous substances with respect to which the Company has knowledge, except for any such disposal, discharge, emission, or other release of any kind which would not have, singularly or in the aggregate with all such discharges and other releases, a Material Adverse Change. In the ordinary course of business, the Company conducts periodic reviews of the effect of Environmental Laws on its business and assets, in the course of which they identify and evaluate associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or governmental permits issued thereunder, any related constraints on operating activities and any potential liabilities to third parties). On the basis of such reviews, the Company has reasonably concluded that such associated costs and liabilities would not have, singularly or in the aggregate, a Material Adverse Change.

2.37. Title to Property. Except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has good and marketable title in fee simple to, or has valid rights to lease or otherwise use, all items of real or personal property which are material to the business of the Company, in each case free and clear of all liens, encumbrances, security interests, claims and defects that do not, singly or in the aggregate, materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company; and all of the leases and subleases material to the business of the Company and under which the Company holds properties described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, are, to the Company’s knowledge, in full force and effect, the Company has not received any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company to the continued possession of the leased or subleased premises under any such lease or sublease.

2.38. Contracts Affecting Capital. There are no transactions, arrangements or other relationships between and/or among the Company, any of its affiliates (as such term is defined in Rule 405 of the Securities Act Regulations) and any unconsolidated entity, including, but not limited to, any structured finance, special purpose or limited purpose entity that could reasonably be expected to materially affect the Company’s liquidity or the availability of or requirements for its capital resources required to be described or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus which have not been described or incorporated by reference as required.

2.39. Loans to Directors or Officers. There are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business) or guarantees or indebtedness by the Company to or for the benefit of any of the officers or directors of the Company or any of their respective family members, except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

2.40. Ineligible Issuer. At the time of filing the Registration Statement and any post-effective amendment thereto, at the Effective Date and at the time of any amendment thereto, at the earliest time thereafter that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) of the Securities Act Regulations) of the Public Securities and at the Effective Date, the Company was not and is not an “ineligible issuer,” as defined in Rule 405, without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an ineligible issuer.

2.41. Smaller Reporting Company. As of the time of filing of the Registration Statement, the Company was a “smaller reporting company,” as defined in Rule 12b-2 of the Exchange Act Regulations.

2.42. Industry Data. The statistical and market-related data included in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus are based on or derived from sources that the Company reasonably and in good faith believes are reliable and accurate or represent the Company's good faith estimates that are made on the basis of data derived from such sources.

2.43. Electronic Road Show. The Company has made available a Bona Fide Electronic Road Show in compliance with Rule 433(d)(8)(ii) of the Securities Act Regulations such that no filing of any "road show" (as defined in Rule 433(h) of the Securities Act Regulations) is required in connection with the Offering.

2.44. Margin Securities. The Company owns no "margin securities" as that term is defined in Regulation U of the Board of Governors of the Federal Reserve System (the "**Federal Reserve Board**"), and none of the proceeds of Offering will be used, directly or indirectly, for the purpose of purchasing or carrying any margin security, for the purpose of reducing or retiring any indebtedness which was originally incurred to purchase or carry any margin security or for any other purpose which might cause any of the Public Securities to be considered a "purpose credit" within the meanings of Regulation T, U or X of the Federal Reserve Board.

2.45. Forward-Looking Statements. No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in the Registration Statement, the Pricing Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

2.46. Integration. Neither the Company, nor any of its affiliates, nor any person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause the Offering to be integrated with prior offerings by the Company for purposes of the Securities Act that would require the registration of any such securities issued in such prior offerings under the Securities Act.

2.46. Confidentiality and Non-Competition. No director, officer, key employee or consultant of the Company is subject to any confidentiality, non-disclosure, non-competition agreement or non-solicitation agreement with any employer (other than the Company) or prior employer that could materially affect his or her ability to be and act in his or her respective capacity of the Company or be reasonable expected to result in a Material Adverse Change.

2.47. Corporate Records. The minute books of the Company have been made available to the Underwriter and Underwriter's Counsel and such books (i) contain minutes of all material meetings and actions of the Board of Directors (including each board committee) and stockholders of the Company, and (ii) reflect all material transactions referred to in such minutes.

2.48. Diligence Materials. The Company has provided to the Underwriter and Underwriter's Counsel all materials required or necessary to respond in all material respects to the diligence request submitted to the Company or Company Counsel by the Underwriter.

2.49. Stabilization. Neither the Company nor, to its knowledge, any of its employees, directors or stockholders (without the consent of the Underwriter) has taken, directly or indirectly, any action designed to or that has constituted or that might reasonably be expected to cause or result in, under Regulation M of the Exchange Act, or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Public Securities.

3. COVENANTS OF THE COMPANY.

The Company covenants and agrees as follows:

3.1. Amendments to Registration Statement. The Company shall deliver to the Underwriter, at least one (1) Business Day (or such shorter time mutually agreed by the parties hereto) prior to filing, any amendment or supplement to the Registration Statement or Prospectus proposed to be filed after the Effective Date and not file any such amendment or supplement to which the Underwriter shall reasonably object in writing.

3.2. Federal Securities Laws.

3.2.1. Compliance. The Company, subject to Section 3.2.2, shall comply with the requirements of Rule 430A of the Securities Act Regulations, and will, during the period required to permit the completion of the distribution of the Public Securities as contemplated in this Agreement and in the Registration Statement, the Pricing Disclosure Package and the Prospectus, notify the Underwriter promptly, and confirm the notice in writing, (i) when any post-effective amendment to the Registration Statement shall become effective or any amendment or supplement to the Prospectus shall have been filed; (ii) of its receipt of any comments from the Commission; (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus or for additional information; (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment or of any order preventing or suspending the use of any Preliminary Prospectus or the Prospectus, or of the suspension of the qualification of the Public Securities and for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the Securities Act concerning the Registration Statement; or (v) if the Company becomes the subject of a proceeding under Section 8A of the Securities Act in connection with the Offering of the Public Securities. The Company shall effect all filings required under Rule 424(b) of the Securities Act Regulations, in the manner and within the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and shall take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company shall use its best efforts to prevent the issuance of any stop order, prevention or suspension and, if any such order is issued, to obtain the lifting thereof at the earliest possible moment.

3.2.2. Continued Compliance. The Company shall comply with the Securities Act, the Securities Act Regulations, the Exchange Act and the Exchange Act Regulations so as to permit the completion of the distribution of the Public Securities as contemplated in this Agreement and in the Registration Statement, the Pricing Disclosure Package and the Prospectus. If at any time when a prospectus relating to the Public Securities is (or, but for the exception afforded by Rule 172 of the Securities Act Regulations (“**Rule 172**”), would be) required by the Securities Act to be delivered in connection with sales of the Public Securities, any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of Underwriter’s Counsel or Company Counsel, to (i) amend the Registration Statement in order that the Registration Statement will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; (ii) amend or supplement the Pricing Disclosure Package or the Prospectus in order that the Pricing Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser; or (iii) amend the Registration Statement or amend or supplement the Pricing Disclosure Package or the Prospectus, as the case may be, in order to comply with the requirements of the Securities Act or the Securities Act Regulations, the Company will promptly (A) give the Underwriter notice of such event; (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to make the Registration Statement, the Pricing Disclosure Package or the Prospectus comply with such requirements and, a reasonable amount of time prior to any proposed filing or use, furnish the Underwriter with copies of any such amendment or supplement; and (C) file with the Commission any such amendment or supplement; provided that the Company shall not file or use any such amendment or supplement to which the Underwriter or Underwriter’s Counsel shall reasonably object. The Company will furnish to the Underwriter such number of copies of such amendment or supplement as the Underwriter may reasonably request. The Company shall give the Underwriter notice of its intention to make any such filing from the Applicable Time until the later of the Closing Date and the exercise in full or expiration of the Over-allotment Option specified in Section 1.2 hereof and will furnish the Underwriter with copies of the related document(s) a reasonable amount of time prior to such proposed filing, as the case may be, and will not file or use any such document to which the Underwriter or Underwriter’s Counsel shall reasonably object.

3.2.3. Exchange Act Registration. For a period of three (3) years after the date of this Agreement, the Company shall use its reasonable best efforts to maintain the registration of the Common Stock under the Exchange Act. For a period of two (2) years after the date of this Agreement, the Company shall not deregister the Common Stock under the Exchange Act without the prior written consent of the Underwriter.

3.2.4. Free Writing Prospectuses. The Company agrees that, unless it obtains the prior written consent of the Underwriter, it shall not make any offer relating to the Public Securities that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a “free writing prospectus,” or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433; provided that the Underwriter shall be deemed to have consented to each Issuer General Use Free Writing Prospectus set forth in Schedule 2-B. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to, or deemed consented to, by the Underwriter as an “issuer free writing prospectus,” as defined in Rule 433, and that it has complied and will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. If at any time following issuance of an Issuer Free Writing Prospectus the Company has knowledge that there has occurred or is occurring an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Underwriter and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

3.2.5. Testing-the-Waters Communications. If at any time following the distribution of any Written Testing-the-Waters Communication the Company has knowledge that there occurred or is occurring an event or development as a result of which such Written Testing-the-Waters Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company shall promptly notify the Underwriter and shall promptly amend or supplement, at its own expense, such Written Testing-the-Waters Communication to eliminate or correct such untrue statement or omission.

3.3. Delivery to the Underwriter of Registration Statements. The Company has delivered or made available or shall deliver or make available to the Underwriter and Underwriter’s Counsel, without charge, conformed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith) and signed copies of all consents and certificates of experts, and will also deliver to each Underwriter, without charge, a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits) upon receipt of a written request therefor from such Underwriter. The copies of the Registration Statement and each amendment thereto furnished to the Underwriter will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

3.4. Delivery to the Underwriter of Prospectuses. The Company has delivered or made available or will deliver or make available to each Underwriter, without charge, as many copies of each Preliminary Prospectus as such Underwriter reasonably requested, and the Company hereby consents to the use of such copies for purposes permitted by the Securities Act. The Company will furnish to each Underwriter, without charge, during the period when a prospectus relating to the Public Securities is (or, but for the exception afforded by Rule 172 of the Securities Act Regulations, would be) required to be delivered under the Securities Act, such number of copies of the Prospectus (as amended or supplemented) as such Underwriter may reasonably request. The Prospectus and any amendments or supplements thereto furnished to the Underwriter will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

3.5. Effectiveness and Events Requiring Notice to the Underwriter. The Company shall use its best efforts to cause the Registration Statement to remain effective with a current prospectus for at least nine (9) months after the Applicable Time, and shall notify the Underwriter promptly and confirm the notice in writing: (i) of the effectiveness of the Registration Statement and any amendment thereto; (ii) of the issuance by the Commission of any stop order or of the initiation, or the threatening, of any proceeding for that purpose; (iii) of the issuance by any state securities commission of any proceedings for the suspension of the qualification of the Public Securities for offering or sale in any jurisdiction or of the initiation, or the threatening, of any proceeding for that purpose; (iv) of the mailing and delivery to the Commission for filing of any amendment or supplement to the Registration Statement or Prospectus; (v) of the receipt of any comments or request for any additional information from the Commission; and (vi) of the happening of any event during the period described in this Section 3.5 that, in the judgment of the Company, makes any statement of a material fact made in the Registration Statement, the Pricing Disclosure Package or the Prospectus untrue or that requires the making of any changes in (a) the Registration Statement in order to make the statements therein not misleading, or (b) in the Pricing Disclosure Package or the Prospectus in order to make the statements therein not misleading. If the Commission or any state securities commission shall enter a stop order or suspend such qualification at any time, the Company shall use its commercially reasonable efforts to obtain promptly the lifting of such order.

3.6. Review of Financial Statements. For a period of three (3) years after the date of this Agreement, the Company, at its expense, shall cause its regularly engaged independent registered public accounting firm to review (but not audit) the Company's financial statements for each of the three fiscal quarters immediately preceding the announcement of any quarterly financial information.

3.7. Listing. The Company shall use its reasonable best efforts to maintain the listing of the Public Securities on the Exchange until at least three (3) years after the date of this Agreement.

3.8. Financial Public Relations. Within six (6) months from the Effective Date, the Company shall have retained a financial public relations firm reasonably acceptable to the Underwriter and the Company, which firm shall be experienced in assisting issuers in initial public offerings of securities and in their relations with their security holders, and shall retain such firm or another firm reasonably acceptable to the Underwriter for a period of not less than two (2) years after the Effective Date.

3.9. Reports to the Underwriter.

3.9.1. Periodic Reports, etc. For a period of three (3) years after the date of this Agreement, the Company shall furnish or make available to the Underwriter copies of such financial statements and other periodic and special reports as the Company from time to time furnishes generally to holders of any class of its securities and also promptly furnish to the Underwriter: (i) a copy of each periodic report the Company shall be required to file with the Commission under the Exchange Act and the Exchange Act Regulations; (ii) a copy of every press release and every news item and article with respect to the Company or its affairs which was released by the Company; (iii) a copy of each Form 8-K prepared and filed by the Company; (iv) a copy of each registration statement filed by the Company under the Securities Act; (v) a copy of each report or other communication furnished to stockholders and (vi) such additional documents and information with respect to the Company and the affairs of any future subsidiaries of the Company as the Underwriter may from time to time reasonably request. Documents filed with the Commission pursuant to its EDGAR system or press releases shall be deemed to have been delivered to the Underwriter pursuant to this Section 3.9.1.

3.9.2. Transfer Agent; Transfer Sheets. For a period of three (3) years after the date of this Agreement, the Company shall retain a transfer agent and registrar acceptable to the Underwriter (the "**Transfer Agent**") and shall furnish to the Underwriter at the Company's sole cost and expense such transfer sheets of the Company's securities as the Underwriter may reasonably request, including the daily and monthly consolidated transfer sheets of the Transfer Agent. Equiniti Trust is acceptable to the Underwriter to act as Transfer Agent for the shares of Common Stock.

3.9.3. Trading Reports. For a period of three (3) years after the date of this Agreement, during such time as any of the Public Securities are listed on the Exchange, the Company shall provide to the Underwriter, at the Company's expense, such reports published by the Exchange relating to price trading of the Public Securities, as the Underwriter shall reasonably request. Documents made freely available by the Exchange through its website shall be deemed to have been delivered by the Underwriter pursuant to this Section.

3.10. Payment of Expenses

Expenses Related to the Offering. Regardless of whether the Offering is consummated, the Company hereby agrees to pay, or reimburse if paid by the Underwriter on each of the Closing Date and the Option Closing Date, if any, to the extent not paid at the Closing Date: (i) all of the Company's costs and expenses incident to the Offering and the performance of its obligations under this Agreement and (ii) all reasonable out-of-pocket costs and expenses incident to the performance of the obligations of the Underwriter under this Agreement (including, without limitation, the fees and expenses of the Underwriter's outside attorneys), provided that, except as otherwise provided in Annex A and excluding expenses related to Blue-Sky and FINRA filings, such costs and expenses shall not exceed \$100,000 without the Company's prior approval (such approval not to be unreasonably withheld, conditioned or delayed).

3.11. Application of Net Proceeds. The Company shall apply the net proceeds from the Offering received by it in a manner consistent with the application thereof described under the caption "Use of Proceeds" in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

3.12. Delivery of Earnings Statements to Security Holders. The Company shall make generally available to its security holders as soon as practicable, but not later than the first day of the fifteenth (15th) full calendar month following the date of this Agreement, an earnings statement (which need not be certified by an independent registered public accounting firm unless required by the Securities Act or the Securities Act Regulations, but which shall satisfy the provisions of Rule 158(a) under Section 11(a) of the Securities Act) covering a period of at least twelve (12) consecutive months beginning after the date of this Agreement.

3.13. Stabilization. Neither the Company nor, to its knowledge, any of its employees, directors or stockholders has taken or shall take, directly or indirectly, any action designed to or that has constituted or that might reasonably be expected to cause or result in, under Regulation M of the Exchange Act, or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Public Securities.

3.14. Internal Controls. For a period of one (1) year after the date of this Agreement, the Company shall maintain a system of internal accounting controls sufficient to provide reasonable assurances that: (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary in order to permit preparation of financial statements in accordance with GAAP and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

3.15. Accountants. As of the date of this Agreement, the Company has retained an independent registered public accounting firm, as required by the Securities Act and the Securities Act Regulations and the Public Company Accounting Oversight Board, reasonably acceptable to the Underwriter, and the Company shall continue to retain a nationally recognized independent registered public accounting firm for a period of at least three (3) years after the date of this Agreement. The Underwriter acknowledges that Weinberg & Company, P.A. is acceptable to the Underwriter.

3.16. FINRA. For a period of 90 days from the later of the Closing Date or the Option Closing Date, the Company shall advise the Underwriter (who shall make an appropriate filing with FINRA) if it is or becomes aware that (i) any officer or director of the Company, (ii) any beneficial owner of 5% or more of any class of the Company's securities or (iii) any beneficial owner of the Company's unregistered equity securities which were acquired during the 180 days immediately preceding the filing of the Registration Statement is or becomes an affiliate or associated person of a FINRA member participating in the Offering (as determined in accordance with the rules and regulations of FINRA).

3.17. No Fiduciary Duties. The Company acknowledges and agrees that the Underwriter's responsibility to the Company is solely contractual in nature and that the Underwriter or their affiliates or any selling agent shall not be deemed to be acting in a fiduciary capacity, or otherwise owes any fiduciary duty to the Company or any of its affiliates in connection with the Offering and the other transactions contemplated by this Agreement.

3.18. Company Lock-Up Agreements. The Company, on behalf of itself and any successor entity, agrees that, without the prior written consent of the Underwriter, it will not, for a period of sixty (60) days after the date of this Agreement (the “**Lock-Up Period**”), (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of capital stock of the Company or any securities convertible into or exercisable or exchangeable for shares of capital stock of the Company; (ii) file or cause to be filed any registration statement with the Commission relating to the offering of any shares of capital stock of the Company or any securities convertible into or exercisable or exchangeable for shares of capital stock of the Company other than a registration statement on Form S-4 or S-8; (iii) complete any offering of debt securities of the Company, other than entering into a line of credit or senior credit facility with a traditional bank or other lending institution; or (iv) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of capital stock of the Company, whether any such transaction described in clause (i), (ii), (iii), or (iv) above is to be settled by delivery of shares of capital stock of the Company or such other securities, in cash or otherwise.

The restrictions contained in this Section 3.18 shall not apply to (i) the Public Securities; (ii) the issuance by the Company of shares of Common Stock upon the exercise of a stock option or warrant or the conversion of a security, in each case outstanding on the date hereof, provided that such options, warrants, securities are disclosed in the Registration Statement, the Pricing Disclosure Package or the Prospectus and have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities or to extend the term of such securities, (iii) the issuance of shares of Common Stock issued as part of the purchase price in connection with acquisitions or strategic transactions, or (iv) the issuance by the Company of any shares of Common Stock or standard options to purchase Common Stock to directors, officers or employees of the Company in their capacity as such pursuant to an Approved Stock Plan (as defined below).

“**Approved Stock Plan**” means any employee benefit plan which has been approved by the board of directors of the Company prior to or subsequent to the date hereof pursuant to which shares of Common Stock and standard options to purchase Common Stock may be issued to any employee, officer or director for services provided to the Company in their capacity as such.

3.19. Release of D&O Lock-up Period. If the Underwriter, in its sole discretion, agrees to release or waive the restrictions set forth in the Lock-Up Agreements described in Section 2.24 hereof for an officer or director of the Company and provides the Company with notice of the impending release or waiver at least three (3) Business Days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver by a press release substantially in the form of Exhibit B hereto through a major news service at least two (2) Business Days before the effective date of the release or waiver.

3.20. Blue Sky Qualifications. The Company shall use its best efforts, in cooperation with the Underwriter, if necessary, to qualify the Public Securities for offering and sale under the applicable securities laws of such states and other jurisdictions (domestic or foreign) as the Underwriter may reasonably designate and to maintain such qualifications in effect so long as required to complete the distribution of the Public Securities; provided, however, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

3.21. Reporting Requirements. The Company, during the period when a prospectus relating to the Public Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the Securities Act, will file all documents required to be filed with the Commission pursuant to the Exchange Act within the time periods required by the Exchange Act and Exchange Act Regulations. Additionally, the Company shall report the use of proceeds from the issuance of the Public Securities as may be required under Rule 463 under the Securities Act Regulations.

3.22. Press Releases. Prior to the Closing Date and any Option Closing Date, the Company shall not issue any press release or other communication directly or indirectly or hold any press conference with respect to the Company, its condition, financial or otherwise, or earnings, business affairs or business prospects (except for routine oral marketing communications in the ordinary course of business and consistent with the past practices of the Company and of which the Underwriter is notified), without the prior written consent of the Underwriter, which consent shall not be unreasonably withheld, unless in the judgment of the Company and its counsel, and after notification to the Underwriter, such press release or communication is required by law.

3.23. Sarbanes-Oxley. For a period of one (1) year after the date of this Agreement, the Company shall at all times comply in all material respects with all applicable provisions of the Sarbanes-Oxley Act in effect from time to time.

3.24. IRS Forms. If requested by the Underwriter, the Company shall deliver to each Underwriter (or its agent), prior to or at the Closing Date, a properly completed and executed Internal Revenue Service (“IRS”) Form W-9 or an IRS Form W-8, as appropriate, together with all required attachments to such form.

4. CONDITIONS OF UNDERWRITER’S OBLIGATIONS.

The obligations of the Underwriter’s to purchase and pay for the Public Securities, as provided herein, shall be subject to (i) the continuing accuracy of the representations and warranties of the Company as of the date hereof and as of each of the Closing Date and the Option Closing Date, if any; (ii) the accuracy of the statements of officers of the Company made pursuant to the provisions hereof; (iii) the performance by the Company of its obligations hereunder; and (iv) the following conditions:

4.1. Regulatory Matters.

4.1.1. Effectiveness of Registration Statement; Rule 430A Information. The Registration Statement has become effective not later than 4:00 p.m., Eastern time, on the date of this Agreement or such later date and time as shall be consented to in writing by the Underwriter, and, at each of the Closing Date and any Option Closing Date, no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto shall have been issued under the Securities Act, no order preventing or suspending the use of any Preliminary Prospectus or the Prospectus shall have been issued and no proceedings for any of those purposes shall have been instituted or are pending or, to the Company’s knowledge, contemplated by the Commission. The Company has complied with each request (if any) from the Commission for additional information. A prospectus containing the Rule 430A Information shall have been filed with the Commission in the manner and within the time frame required by Rule 424(b) under the Securities Act Regulations (without reliance on Rule 424(b)(8)) or a post-effective amendment providing such information shall have been filed with, and declared effective by, the Commission in accordance with the requirements of Rule 430A under the Securities Act Regulations.

4.1.2. FINRA Clearance. On or before the date of this Agreement, the Underwriter shall have received clearance from FINRA as to the amount of compensation allowable or payable to the Underwriter as described in the Registration Statement.

4.1.3. Exchange Clearance. On the Closing Date, the Company’s shares of Common Stock, including the Firm Securities, shall have been approved for listing on the Exchange, subject only to official notice of issuance. On the first Option Closing Date (if any), the Company’s shares of Common Stock, including the Option Shares, shall have been approved for listing on the Exchange, subject only to official notice of issuance.

4.2. Company Counsel Matters.

4.2.1. Closing Date Opinion of Counsel. On the Closing Date, the Underwriter shall have received the favorable opinion and negative assurance letter of TroyGould PC (“**Company Counsel**”), counsel to the Company, dated the Closing Date and addressed to the Underwriter, in form and substance reasonably satisfactory to the Underwriter.

4.2.2. Option Closing Date Opinions of Counsel. On the Option Closing Date, if any, the Underwriter shall have received the favorable opinion and negative assurance letter of Company Counsel listed in Section 4.2.1, dated the Option Closing Date, addressed to the Underwriter and in form and substance reasonably satisfactory to the Underwriter, confirming as of the Option Closing Date, the statements made by such counsel in its opinion or their respective opinions delivered on the Closing Date.

4.2.3. Reliance. The opinion of Company Counsel and any opinion relied upon by Company Counsel shall include a statement to the effect that it may be relied upon by Underwriter's Counsel in its opinion delivered to the Underwriter.

4.3. Comfort Letters.

4.3.1. Comfort Letter. At the time this Agreement is executed the Underwriter shall have received a cold comfort letter from the Auditors containing statements and information of the type customarily included in accountants' comfort letters with respect to the financial statements and certain financial information contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus, addressed to the Underwriter and in form and substance reasonably satisfactory in all respects to the Underwriter and to Underwriter's Counsel from the Auditors, dated as of the date of this Agreement.

4.3.2. Bring-down Comfort Letter. At each of the Closing Date and the Option Closing Date, if any, the Underwriter shall have received from the Auditors a letter, dated as of the Closing Date or the Option Closing Date, as applicable, to the effect that the Auditors reaffirms the statements made in the letter furnished pursuant to Section 4.3.1.

4.4. Officers' Certificates.

4.4.1. Officers' Certificate. The Company shall have furnished to the Underwriter a certificate, dated the Closing Date and any Option Closing Date (if such date is other than the Closing Date), of its Chief Executive Officer or Chief Financial Officer stating that on behalf of the Company and not in an individual capacity that (i) such officer has examined the Registration Statement, the Pricing Disclosure Package, any Issuer Free Writing Prospectus and the Prospectus and, in such officer's opinion, the Registration Statement and each amendment thereto after the Effective Date, as of the Applicable Time and as of the Closing Date (or any Option Closing Date if such date is other than the Closing Date) did not include any untrue statement of a material fact and did not omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and the Pricing Disclosure Package, as of the Applicable Time and as of the Closing Date (or any Option Closing Date if such date is other than the Closing Date), any Issuer Free Writing Prospectus as of its date and as of the Closing Date (or any Option Closing Date if such date is other than the Closing Date), the Prospectus and each amendment or supplement thereto after the Effective Date, as of the respective date thereof and as of the Closing Date, did not include any untrue statement of a material fact and did not omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances in which they were made, not misleading, (ii) to such officer's knowledge after reasonable investigation, as of the Closing Date (or any Option Closing Date if such date is other than the Closing Date), the representations and warranties of the Company in this Agreement are true and correct and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to the Closing Date (or any Option Closing Date if such date is other than the Closing Date), and (iii) there has not been, subsequent to the date of the most recent audited financial statements included in the Pricing Disclosure Package, a Material Adverse Change.

4.4.2. Secretary's Certificate. At the Closing Date and the Option Closing Date, if any, the Underwriter shall have received a certificate of the Company signed by the Secretary of the Company, dated the Closing Date or the Option Closing Date, as the case may be, respectively, certifying on behalf of the Company and not in an individual capacity: (i) that each of the Charter, Bylaws and organizational documents of each Subsidiary is true and complete, has not been modified and is in full force and effect; (ii) that the resolutions of the Company's Board of Directors relating to the Offering are in full force and effect and have not been modified; (iii) as to the accuracy and completeness of all correspondence between the Company or its counsel and the Commission; and (iv) as to the incumbency of the officers of the Company. The documents referred to in such certificate shall be attached to such certificate.

4.5. No Material Changes. Prior to and on each of the Closing Date and each Option Closing Date, if any: (i) there shall have been no Material Adverse Change in the condition or the business activities, financial or otherwise, of the Company from the latest dates as of which such condition is set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus; (ii) no action, suit or proceeding, at law or in equity, shall have been pending or threatened against the Company or any Insider before or by any court or federal or state commission, board or other administrative agency wherein an unfavorable decision, ruling or finding may reasonably be expected to cause a Material Adverse Change, except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus; (iii) no stop order shall have been issued under the Securities Act and no proceedings therefor shall have been initiated or threatened by the Commission; and (iv) the Registration Statement, the Pricing Disclosure Package and the Prospectus and any amendments or supplements thereto shall contain all material statements which are required to be stated therein in accordance with the Securities Act and the Securities Act Regulations and shall conform in all material respects to the requirements of the Securities Act and the Securities Act Regulations, and neither the Registration Statement, the Pricing Disclosure Package nor the Prospectus nor any amendment or supplement thereto shall contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading.

4.6. Lock-Up Agreements. On or before the date of this Agreement, the Company shall have delivered to the Underwriter executed copies of the Lock-Up Agreements from each of the persons listed in Schedule 3 hereto.

4.7. Additional Documents. At the Closing Date and at each Option Closing Date (if any) Underwriter's Counsel shall have been furnished with such documents and opinions as they may reasonably require for the purpose of enabling Underwriter's Counsel to deliver an opinion to the Underwriter, or in order to evidence the accuracy of any of the representations or warranties, or the fulfillment of any of the conditions, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Public Securities as herein contemplated shall be reasonably satisfactory in form and substance to the Underwriter and Underwriter's Counsel.

5. INDEMNIFICATION.

5.1. Indemnification of the Underwriter.

5.1.1. General. The Company shall indemnify and hold harmless each Underwriter, its affiliates and each of its and their respective directors, officers, members, employees, representatives, partners, shareholders, affiliates, counsel and agents and each person, if any, who controls any such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the "**Underwriter Indemnified Parties**," and each an "**Underwriter Indemnified Party**"), against any and all loss, liability, claim, damage and expense whatsoever (including but not limited to any and all legal or other expenses reasonably incurred in investigating, preparing or defending against any litigation, commenced or threatened, or any claim whatsoever, whether arising out of any action between any of the Underwriter Indemnified Parties and the Company or between any of the Underwriter Indemnified Parties and any third party, or otherwise) to which they or any of them may become subject under the Securities Act, the Exchange Act or any other statute or at common law or otherwise or under the laws of foreign countries, arising out of or based upon any untrue statement or alleged untrue statement of a material fact contained in (i) the Registration Statement, the Pricing Disclosure Package, the Preliminary Prospectus, the Prospectus or any Issuer Free Writing Prospectus (as from time to time each may be amended and supplemented); (ii) any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the Offering, including any "road show" or investor presentations made to investors by the Company (whether in person or electronically); or (iii) any application or other document or written communication (in this Section 5, collectively called "**application**") executed by the Company or based upon written information furnished by the Company in any jurisdiction in order to qualify the Public Securities under the securities laws thereof or filed with the Commission, any state securities commission or agency, the Exchange or any other national securities exchange; or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, unless such statement or omission was made in reliance upon, and in conformity with, the Underwriter's Information. With respect to any untrue statement or omission or alleged untrue statement or omission made in the Pricing Disclosure Package, the indemnity agreement contained in this Section 5.1.1 shall not inure to the benefit of any Underwriter Indemnified Party to the extent that any loss, liability, claim, damage or expense of such Underwriter Indemnified Party (a) is based on the Underwriter's Information or material omission therefrom, (b) results from the fact that a copy of the Prospectus was not given or sent to the person asserting any such loss, liability, claim or damage at or prior to the written confirmation of sale of the Public Securities to such person as required by the Securities Act and the Securities Act Regulations, and if the untrue statement or omission has been corrected in the Prospectus, unless such failure to deliver the Prospectus was a result of non-compliance by the Company with its obligations under Section 3.3 hereof, or (c) is found in a final, non-appealable judgment of a court of competent jurisdiction to have resulted primarily from the willful misconduct or gross negligence of such Underwriter Indemnified Party.

5.1.2. Procedure. If any action is brought against an Underwriter Indemnified Party in respect of which indemnity may be sought against the Company pursuant to Section 5.1.1, such Underwriter Indemnified Party shall promptly notify the Company in writing of the institution of such action and the Company shall be entitled to participate therein and, to the extent that it wishes, jointly with any other similarly notified indemnifying party, to assume the defense of such action, including the employment and fees of counsel (subject to the reasonable approval of such Underwriter Indemnified Party) and payment of actual expenses. Such Underwriter Indemnified Party shall have the right to employ its or their own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of such Underwriter Indemnified Party unless (i) the employment of such counsel at the expense of the Company shall have been authorized in writing by the Company in connection with the defense of such action, or (ii) the Company shall not have employed counsel to have charge of the defense of such action, or (iii) the action includes both the Company and the indemnified party as defendants and such indemnified party or parties shall have been advised by its counsel that there may be defenses available to it or them which are different from or additional to those available to the Company which makes it impossible or inadvisable for the Company and such indemnified party to be represented in the action by the same counsel (in which case the Company shall not have the right to direct the defense of such action on behalf of the indemnified party), in any of which events the reasonable fees and expenses of not more than one additional firm of attorneys selected by the Underwriter Indemnified Parties who are party to such action (in addition to local counsel) shall be borne by the Company. Notwithstanding anything to the contrary contained herein, if any Underwriter Indemnified Party shall assume the defense of such action as provided above, the Company shall have the right to approve the terms of any settlement of such action, which approval shall not be unreasonably withheld.

5.2. Indemnification of the Company. Each Underwriter, severally and not jointly, shall indemnify and hold harmless the Company, its directors, its officers who signed the Registration Statement and persons who control the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act against any and all loss, liability, claim, damage and expense described in the foregoing indemnity from the Company to the Underwriter, as incurred, but only with respect to such losses, liabilities, claims, damages and expenses (or actions in respect thereof) which arise out of or are based upon untrue statements or omissions made in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or Prospectus or any amendment or supplement thereto or in any application, in reliance upon, and in strict conformity with, the Underwriter's Information. In case any action shall be brought against the Company or any other person so indemnified based on any Preliminary Prospectus, the Registration Statement, the Pricing Disclosure Package or Prospectus or any amendment or supplement thereto or any application, and in respect of which indemnity may be sought against any Underwriter, such Underwriter shall have the rights and duties given to the Company, and the Company and each other person so indemnified shall have the rights and duties given to the Underwriter by the provisions of Section 5.1.2. The Company agrees promptly to notify the Underwriter of the commencement of any litigation or proceedings against the Company or any of its officers, directors or any person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, in connection with the issuance and sale of the Public Securities or in connection with the Registration Statement, the Pricing Disclosure Package, the Prospectus or any Issuer Free Writing Prospectus.

5.3. Contribution.

5.3.1. Contribution Rights. If the indemnification provided for in this Section 5 shall for any reason be unavailable to or insufficient to hold harmless an indemnified party under Section 5.1 or 5.2 in respect of any loss, claim, damage or liability, or any action in respect thereof, referred to therein, then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability, or action in respect thereof, (i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriter, on the other, from the Offering of the Public Securities, or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Underwriter, on the other, with respect to the statements or omissions that resulted in such loss, claim, damage or liability, or action in respect thereof, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Underwriter, on the other, with respect to such Offering shall be deemed to be in the same proportion as the total net proceeds from the Offering of the Public Securities purchased under this Agreement (before deducting expenses) received by the Company, as set forth in the table on the cover page of the Prospectus, on the one hand, and the total underwriting discounts and commissions received by the Underwriter with respect to the shares of the Common Stock purchased under this Agreement, as set forth in the table on the cover page of the Prospectus, on the other hand. The relative fault shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriter, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Underwriter agree that it would not be just and equitable if contributions pursuant to this Section 5.3.1 were to be determined by pro rata allocation (even if the Underwriter were treated as one entity for such purpose) or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, damage or liability, or action in respect thereof, referred to above in this Section 5.3.1 shall be deemed to include, for purposes of this Section 5.3.1, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 5.3.1 in no event shall an Underwriter be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the Offering of the Public Securities exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

5.3.2. Contribution Procedure. Within fifteen (15) days after receipt by any party to this Agreement (or its representative) of notice of the commencement of any action, suit or proceeding, such party will, if a claim for contribution in respect thereof is to be made against another party (“contributing party”), notify the contributing party of the commencement thereof, but the failure to so notify the contributing party will not relieve it from any liability which it may have to any other party other than for contribution hereunder. In case any such action, suit or proceeding is brought against any party, and such party notifies a contributing party or its representative of the commencement thereof within the aforesaid 15 days, the contributing party will be entitled to participate therein with the notifying party and any other contributing party similarly notified. Any such contributing party shall not be liable to any party seeking contribution on account of any settlement of any claim, action or proceeding affected by such party seeking contribution without the written consent of such contributing party. The contribution provisions contained in this Section 5.3.2 are intended to supersede, to the extent permitted by law, any right to contribution under the Securities Act, the Exchange Act or otherwise available. The Underwriter’s obligations to contribute as provided in this Section 5.3 are several and in proportion to their respective underwriting obligation, and not joint.

6. DEFAULT BY THE UNDERWRITER.

6.1. Default Not Exceeding 10% of Firm Securities or Option Shares. If the Underwriter shall default in its obligations to purchase the Firm Securities or the Option Shares, if the Over-allotment Option is exercised hereunder, and if the number of the Firm Securities or Option Shares with respect to which such default relates does not exceed in the aggregate 10% of the number of Firm Securities or Option Shares that the Underwriter has agreed to purchase hereunder, then such Firm Securities or Option Shares to which the default relates shall be purchased by a non-defaulting Underwriter at your election in proportion to the respective commitments hereunder.

6.2. Default Exceeding 10% of Firm Securities or Option Shares. In the event that the default addressed in Section 6.1 relates to more than 10% of the Firm Securities or Option Shares, you may in your discretion arrange for yourself or for another party or parties to purchase such Firm Securities or Option Shares to which such default relates on the terms contained herein. If, within one (1) Business Day after such default relating to more than 10% of the Firm Securities or Option Shares, you do not arrange for the purchase of such Firm Securities or Option Shares, then the Company shall be entitled to a further period of one (1) Business Day within which to procure another party or parties satisfactory to you to purchase said Firm Securities or Option Shares on such terms. In the event that neither you nor the Company arrange for the purchase of the Firm Securities or Option Shares to which a default relates as provided in this Section 6, this Agreement will automatically be terminated without liability on the part of the Company (except as provided in Sections 3.10 and 5 hereof) or the Underwriter (except as provided in Section 5 hereof); provided, however, that if such default occurs with respect to the Option Shares, this Agreement will not terminate as to the Firm Shares; and provided, further, that nothing herein shall relieve a defaulting Underwriter of its liability, if any, to the other Underwriters and to the Company for damages occasioned by its default hereunder.

6.3. Postponement of Closing Date. In the event that the Firm Securities or Option Shares to which the default relates are to be purchased by the non-defaulting Underwriter, or are to be purchased by another party or parties as aforesaid, you or the Company shall have the right to postpone the Closing Date or Option Closing Date for a reasonable period, but not in any event exceeding five (5) Business Days, in order to effect whatever changes may thereby be made necessary in the Registration Statement, the Pricing Disclosure Package or the Prospectus or in any other documents and arrangements, and the Company agrees to file promptly any amendment to the Registration Statement, the Pricing Disclosure Package or the Prospectus that in the opinion of counsel for the Underwriter may thereby be made necessary. The term “Underwriter” as used in this Agreement shall include any party substituted under this Section 6 with like effect as if it had originally been a party to this Agreement with respect to such shares of Common Stock.

7. ADDITIONAL COVENANTS.

7.1. Prohibition on Press Releases and Public Announcements. The Company shall not issue press releases or engage in any other publicity, without the Underwriter’s prior written consent, for a period ending at 5:00 p.m., Eastern time, on the first (1st) Business Day following the fortieth (40th) day after the Closing Date, other than normal and customary releases issued in the ordinary course of the Company’s business.

“Cause”, for the purpose of this Agreement, shall mean, as determined by a court of competent jurisdiction, willful misconduct, gross negligence or a material breach of this Agreement by the Underwriter.

“Engagement Period” shall mean the period beginning on April 13, 2023, and ending on the earlier of (i) six (6) months from the date of such date, (ii) the final closing, if any, of the Offering, or (iii) the date that either party to this Agreement gives the other party to this Agreement at least thirty (30) days’ advance written notice of termination of that certain engagement letter agreement by and between the Company and the Underwriter, dated as of April 13, 2023. During the term of this Agreement the Company agrees that it will not negotiate with any other underwriter, placement agent or arranger relating to a possible public or private offering or placement of the Company’s securities (including the Offering) or other financing without first consulting and receiving the approval of the Underwriter.

8. EFFECTIVE DATE OF THIS AGREEMENT AND TERMINATION THEREOF.

8.1. Effective Date. This Agreement shall become effective when both the Company and the Underwriter have executed the same and delivered counterparts of such signatures to the other party.

8.2. Termination. The Underwriter shall have the right to terminate this Agreement at any time prior to any Closing Date, (i) if any domestic or international event or act or occurrence has materially disrupted, or in the Underwriter's reasonable opinion will in the immediate future materially disrupt, general securities markets in the United States; or (ii) if trading on the New York Stock Exchange or the Nasdaq Stock Market LLC shall have been suspended or materially limited, or minimum or maximum prices for trading shall have been fixed, or maximum ranges for prices for securities shall have been required by FINRA or by order of the Commission or any other government authority having jurisdiction; or (iii) if a banking moratorium has been declared by a New York State or federal authority; or (iv) if a moratorium on foreign exchange trading has been declared which materially adversely impacts the United States securities markets; or (v) if the Company shall have sustained a material loss by fire, flood, accident, hurricane, earthquake, theft, sabotage or other calamity or malicious act which, whether or not such loss shall have been insured, will, in the Underwriter's reasonable opinion, make it inadvisable to proceed with the delivery of the Firm Securities or Option Shares; or (vi) if the Company is in material breach of any of its representations, warranties or covenants hereunder; or (vii) if the Underwriter shall have become aware after the date hereof of a Material Adverse Change, or an adverse material change in general market conditions as in the Underwriter's judgment would make it impracticable to proceed with the offering, sale and/or delivery of the Public Securities or to enforce contracts made by the Underwriters for the sale of the Public Securities.

8.3. Expenses. Notwithstanding anything to the contrary in this Agreement, except in the case of a default by the Underwriter, pursuant to Section 6.2 above, in the event that this Agreement shall not be carried out for any reason whatsoever, within the time specified herein or any extensions thereof pursuant to the terms herein, the Company shall be obligated to pay to the Underwriter all reasonable actual and accountable out-of-pocket expenses related to the transactions contemplated herein then due and payable (including the fees and disbursements of Underwriter's Counsel) provided, that such expenses are actually incurred by the Underwriter. Notwithstanding the foregoing, any advance received by the Underwriter will be reimbursed to the Company to the extent not actually incurred in compliance with FINRA Rule 5110(g)(4)(A).

8.4. Indemnification. Notwithstanding any contrary provision contained in this Agreement, any election hereunder or any termination of this Agreement, and whether or not this Agreement is otherwise carried out, the provisions of Section 5 shall remain in full force and effect and shall not be in any way affected by, such election or termination or failure to carry out the terms of this Agreement or any part hereof.

8.5. Representations, Warranties, Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of any Underwriter or its affiliates or selling agents, any person controlling any Underwriter, its officers or directors or any person controlling the Company or (ii) delivery of and payment for the Public Securities.

9. MISCELLANEOUS.

9.1. Constructive Knowledge. Whenever a representation or warranty or other statement in this Agreement (including, without limitation, schedules hereto) is made with respect to a party's "knowledge," such statement refers to the knowledge, after reasonable inquiry, of such party's employees or agents who were or are responsible for or involved with the indicated matter.

9.2. Notices. All communications hereunder, except as herein otherwise specifically provided, shall be in writing and shall be mailed (registered or certified mail, return receipt requested), personally delivered or sent by email or facsimile transmission and confirmed and shall be deemed given when so delivered or emailed or faxed and confirmed (which confirmation may be by email or facsimile transmission) or if mailed, two (2) days after such mailing.

If to the Underwriter:

EF Hutton
590 Madison Avenue, 39th Floor
New York, New York 10022
Attn: Sam Fleischman

with a copy (which shall not constitute notice) to:

Lucosky Brookman LLP
101 Wood Avenue South 5th Floor
Woodbridge, NJ 08830
Attn: Joseph M. Lucosky, Esq.
Fax No.: (732) 395-4401
Email: jlucosky@lucbro.com

If to the Company:

Bone Biologics Corporation
2 Burlington Woods Drive, Suite 100
Burlington, MA 01803
Attn: Jeffrey Frelick, Chief Executive Officer
Email: jfrelick@bonebiologics.com

with a copy (which shall not constitute notice) to:

TroyGould PC
1801 Century Park East, 16th Floor
Los Angeles, CA 90067
Attn: David Ficksman, Esq.
Email: dficksman@troygould.com

9.3. Headings. The headings contained herein are for the sole purpose of convenience of reference, and shall not in any way limit or affect the meaning or interpretation of any of the terms or provisions of this Agreement.

9.4. Amendment. This Agreement may only be amended by a written instrument executed by each of the parties hereto.

9.5. Entire Agreement. This Agreement (together with the other agreements and documents being delivered pursuant to or in connection with this Agreement) constitutes the entire agreement of the parties hereto with respect to the subject matter hereof and thereof, and supersedes all prior agreements and understandings of the parties, oral and written, with respect to the subject matter hereof.

9.6. Binding Effect. This Agreement shall inure solely to the benefit of and shall be binding upon the Underwriter, the Company and the controlling persons, directors and officers referred to in Section 5 hereof, and their respective successors, legal representatives, heirs and assigns, and no other person shall have or be construed to have any legal or equitable right, remedy or claim under or in respect of or by virtue of this Agreement or any provisions herein contained. The term “successors and assigns” shall not include a purchaser, in its capacity as such, of securities from any of the Underwriters.

9.7. Governing Law; Jurisdiction; Venue and Arbitration. This Agreement, including Annex A hereto, will be governed by and construed in accordance with the laws of the State of New York, without regard to principles of conflicts of law. Any controversy between the parties to this Agreement, or arising out of the Agreement, shall be resolved by arbitration before the American Arbitration Association (“AAA”) in New York, New York. The following arbitration agreement should be read in conjunction with these disclosures:

- (a) ARBITRATION IS FINAL AND BINDING ON THE PARTIES;
 - (b) THE PARTIES ARE WAIVING THEIR RIGHT TO SEEK REMEDIES IN COURT, INCLUDING THE RIGHT TO JURY TRIAL;
 - (c) PRE-ARBITRATION DISCOVERY IS GENERALLY MORE LIMITED THAN AND DIFFERENT FROM COURT PROCEEDING; AND
 - (d) THE ARBITRATOR’S AWARD IS NOT REQUIRED TO INCLUDE FACTUAL FINDING OR LEGAL REASONING AND ANY PARTY’S RIGHT TO APPEAL OR TO SEEK MODIFICATION OF RULINGS BY THE ARBITRATORS IS STRICTLY LIMITED.
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- (e) ARBITRATION AGREEMENT. ANY AND ALL CONTROVERSIES, DISPUTES OR CLAIMS BETWEEN BROKER- DEALER AND YOU OR YOUR AGENTS, REPRESENTATIVES, EMPLOYEES, DIRECTORS, OFFICERS OR CONTROL PERSONS, ARISING OUT OF, IN CONNECTION WITH, OR WITH RESPECT TO (i) ANY PROVISIONS OF OR THE VALIDITY OF THIS AGREEMENT OR ANY RELATED AGREEMENTS, (ii) THE RELATIONSHIP OF THE PARTIES HERETO, OR (iii) ANY CONTROVERSY ARISING OUT OF YOUR BUSINESS SHALL BE CONDUCTED BY THE AMERICAN ARBITRATION ASSOCIATION UNDER ITS COMMERCIAL ARBITRATION RULES. ARBITRATION MUST BE COMMENCED BY SERVICE OF A WRITTEN DEMAND FOR ARBITRATION OR A WRITTEN NOTICE OF INTENTION TO ARBITRATE. IF YOU ARE A PARTY TO SUCH ARBITRATION, TO THE EXTENT PERMITTED BY THE RULES OF THE APPLICABLE ARBITRATION TRIBUNAL, THE ARBITRATION SHALL BE CONDUCTED IN NEW YORK, NEW YORK. THE DECISION AND AWARD OF THE ARBITRATORS(S) SHALL BE CONCLUSIVE AND BINDING UPON ALL PARTIES, AND ANY JUDGMENT UPON ANY AWARD RENDERED MAY BE ENTERED IN THE STATE OR FEDERAL COURTS LOCATED IN NEW YORK, NEW YORK, OR ANY OTHER COURT HAVING JURISDICTION THEREOF, AND NEITHER PARTY SHALL OPPOSE SUCH ENTRY.

9.8. Execution in Counterparts. This Agreement may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which shall be deemed to be an original, but all of which taken together shall constitute one and the same agreement and shall become effective when one or more counterparts has been signed by each of the parties hereto and delivered to each of the other parties hereto. Delivery of a signed counterpart of this Agreement by facsimile or email/pdf transmission shall constitute valid and sufficient delivery thereof.

9.9. Waiver, etc. The failure of any of the parties hereto to at any time enforce any of the provisions of this Agreement shall not be deemed or construed to be a waiver of any such provision, nor to in any way affect the validity of this Agreement or any provision hereof or the right of any of the parties hereto to thereafter enforce each and every provision of this Agreement. No waiver of any breach, non-compliance or non-fulfillment of any of the provisions of this Agreement shall be effective unless set forth in a written instrument executed by the party or parties against whom or which enforcement of such waiver is sought; and no waiver of any such breach, non-compliance or non-fulfillment shall be construed or deemed to be a waiver of any other or subsequent breach, non-compliance or non-fulfillment.

[Signature Pages Follow]

If the foregoing correctly sets forth the understanding between the Underwriters and the Company, please sign in the space provided below for that purpose, whereupon this letter shall constitute a binding agreement between us.

Very truly yours,

Bone Biologics Corporation

By: _____
Name: Jeffrey Frelick
Title: Chief Executive Officer

Confirmed as of the date first written above mentioned:

**EF HUTTON,
division of Benchmark Investments, LLC**

By: _____
Name: Sam Fleischman
Title: Supervisory Principal

[Signature Page to Underwriting Agreement]

SCHEDULE 1

	<u>Number of Firm Shares</u>	<u>Number of Pre- Funded Warrants</u>	<u>Number of Additional Option Shares to be Purchased if the Over- Allotment Option is Fully Exercised</u>
EF Hutton, division of Benchmark Investments, LLC			
Total:			

SCHEDULE 2-A

Pricing Information

Number of Firm Shares:
Number of Pre-Funded Warrants:
Number of Option Shares:
Public Offering Price per Firm Share: \$
Public Offering Price per Pre-Funded Warrant: \$
Public Offering Price per Option Share: \$
Underwriting Discount per Share: \$
Proceeds to Company per Share (before expenses): \$
Proceeds to Company per Option Share (before expenses): \$

SCHEDULE 2-B

Issuer General Use Free Writing Prospectuses

SCHEDULE 3

List of Lock-Up Parties

- Jeffrey Frelick
 - Deina H. Walsh
 - Don R. Hankey
 - Bruce Stroever
 - Erick Lucera
 - Siddhesh Angle
-

SCHEDULE 4

Testing-the-Waters Communications

SCHEDULE 5

Significant Subsidiaries

Exhibit A

Form of Pre-Funded Warrant

Exhibit B

Form of Lock-Up Agreement

ANNEX A

INDEMNIFICATION

The Company agrees to indemnify and hold harmless EF Hutton and its affiliates and their respective present and former directors, officers, employees, agents and controlling persons (each such person, including EF Hutton, an “Indemnified Party”) from and against any losses, claims, damages and liabilities, joint or several (collectively, “Damages”), to which such Indemnified Party may become subject in connection with, relating to or arising from any transaction contemplated by this Agreement or the engagement of or performance of services by an Indemnified Party hereunder, and will reimburse each Indemnified Party for all out-of-pocket fees incurred in connection with investigating, preparing, pursuing or defending any threatened or pending subpoena, claim, action, proceeding or investigation (“Proceedings”) arising therefrom, whether or not any Indemnified Party is a formal party to such Proceeding; provided, that the Company will not be liable to any Indemnified Party to the extent that any Damages are found in a final non-appealable judgment by a court of competent jurisdiction to have resulted solely from the bad faith, gross negligence or willful misconduct of the Indemnified Party. No Indemnified Party will have any liability (whether direct or indirect, in contract, tort or otherwise) to the Company or any person asserting claims on behalf of the Company arising out of or in connection with any transactions contemplated by this Agreement or the engagement of or performance of services by any Indemnified Party hereunder except to the extent that the Company incurs Damages that are found in a final non-appealable judgment by a court of competent jurisdiction to have resulted solely from the bad faith, gross negligence or willful misconduct of the Indemnified Party.

If for any reason other than in accordance with the previous paragraph of this Annex A, the foregoing indemnity is unavailable to an Indemnified Party or insufficient to hold an Indemnified Party harmless, then the Company will contribute to the amount paid or payable by an Indemnified Party for Damages and Expenses related thereto in such proportion as is appropriate to reflect the relative benefits to the Company and/or its stockholders on the one hand, and EF Hutton on the other hand, in connection with the matters covered by this Agreement or, if the foregoing allocation is not permitted by applicable law, not only such relative benefits but also the relative faults of such parties as well as any relevant equitable considerations. The Company agrees that for purposes of this paragraph the relative benefits to the Company and/or its stockholders and EF Hutton in connection with the matters covered by this Agreement will be deemed to be in the same proportion that the total value paid or received or to be paid or received by the Company and/or its stockholders in connection with the transactions contemplated by this Agreement, whether or not consummated, bears to the fees paid to EF Hutton under this Agreement; provided, that in no event will the total contribution of all Indemnified Parties to all such Damages and Expenses exceed the amount of fees actually received and retained by EF Hutton under this Agreement (excluding any amounts received by EF Hutton as reimbursement of expenses). Relative fault shall be determined by reference to, among other things, whether any alleged untrue statement or omission or any alleged conduct relates to information provided by the Company or other conduct by the Company (or its employees or other agents) on the one hand, or by EF Hutton, on the other hand.

No Indemnified Party will agree to settle any Proceeding and seek indemnification or reimbursement hereunder unless consent will not be unreasonably withheld) to such settlement. The Company agrees not to enter into any waiver, release or settlement of any Proceeding (whether or not any Indemnified Party is a party thereto) in respect of which indemnification may be sought hereunder without the prior written consent of EF Hutton (which consent will not be unreasonably withheld), unless such waiver, release or settlement (i) includes an unconditional release of each Indemnified Party from all liability arising out of such Proceeding, (ii) does not contain any factual or legal admission by or with respect to any Indemnified Party or any adverse statement with respect to the character, professionalism, expertise or reputation of any Indemnified Party or any action or inaction of any Indemnified Party and (iii) does not preclude or purport to preclude the future business activities of any Indemnified Person. In addition to any rights of indemnification or contribution set forth above, the Company agrees to reimburse each Indemnified Party for all out-of-pocket costs and expenses as they are incurred (including, without limitation, the reasonable fees and expenses of outside counsel) in connection with investigating, preparing or settling any Proceeding involving the enforcement of this Agreement or this Annex A. The indemnity, reimbursement and contribution obligations of the Company are in addition to any liability that the Company may have at common law or otherwise to any Indemnified Party and will be binding upon and inure to the benefit of any successors, assigns, heirs and personal representatives of the Company or an Indemnified Party. The provisions of this Annex will survive the modification, expiration or termination of this Agreement.

FORM OF PRE-FUNDED COMMON STOCK PURCHASE WARRANT

BONE BIOLOGICS CORPORATION

Warrant Shares: _____

Issue Date: [●], 2023
Initial Exercise Date: [●], 2023

THIS PRE-FUNDED COMMON STOCK PURCHASE WARRANT (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 set forth above (the “Initial Exercise Date”) and until this Warrant is exercised in full (the “Termination Date”) but not thereafter, to subscribe for and purchase from Bone Biologics Corporation, 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).

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 on the Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share 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.

“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 generally are open for use by customers on such day.

“Commission” means the United States 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 the 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.

“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.333-271558).

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

“Subsidiary” means any subsidiary of the Company and shall, where applicable, also include any direct or indirect subsidiary of the Company formed or acquired after the date hereof.

“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, the New York Stock Exchange, or OTCQB or OTCQX (or any successors to any of the foregoing).

“Transfer Agent” means Equiniti Trust, the current transfer agent of the Company, with a mailing address of 1110 Centre Pointe Curve, Mendota Heights, MN 55120, and any successor transfer agent of the Company.

“Underwriting Agreement” means the underwriting agreement, dated as of _____, by and between the Company and EF Hutton, division of Benchmark Investments, LLC, as amended, modified or supplemented from time to time in accordance with its terms.

“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. (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 on the Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of 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.

“Warrants” means this Warrant and other pre-funded Common Stock purchase warrants issued by the Company pursuant to the Registration Statement.

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 facsimile copy or 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 within three (3) Trading Days 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.**

b) Exercise Price. The aggregate exercise price of this Warrant, except for a nominal exercise price of \$0.001 per Warrant Share, was pre-funded to the Company on or prior to the Initial Exercise Date and, consequently, no additional consideration (other than the nominal exercise price of \$0.001 per Warrant Share) shall be required to be paid by the Holder to any person to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-paid aggregate exercise price under any circumstance or for any reason whatsoever. The remaining unpaid exercise price per Warrant Share under this Warrant shall be \$0.001, subject to adjustment hereunder (the “Exercise Price”).

c) Cashless Exercise. 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)(68) 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. (“Bloomberg”) 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.

Notwithstanding anything herein to the contrary, but without limiting the rights of a Holder to receive Warrant Shares on a “cashless exercise” pursuant to this Section 2(c) or to receive cash payments pursuant to Section 3(d)(i) and Section 3(d)(iv) herein, the Company shall not be required to make any cash payments or net cash settlement to the Holder in lieu of delivery of the Warrant Shares. 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). Notwithstanding anything herein to the contrary, on the Termination Date, this Warrant shall be automatically exercised via cashless exercise pursuant 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 recorded into book-entry and held electronically at the Transfer Agent in the name of the Holder or its designee by the Transfer Agent to the Holder or the Holder’s designee if (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) this Warrant is being exercised via cashless exercise, 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 fifth Trading Day after such liquidated damages begin to accrue) 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. Notwithstanding the foregoing, with respect to any Notice(s) of Exercise delivered on or prior to 12:00 p.m. (New York City time) on the Initial Exercise Date, which may be delivered at any time after the time of execution of the Underwriting Agreement, the Company agrees to deliver the Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Initial Exercise Date and the Initial Exercise Date shall be the Warrant Share Delivery Date for purposes hereunder, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by such Warrant Share Delivery Date.

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 the 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.

iv. 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 Warrant Shares having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of Warrant Shares 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 Warrant Shares upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional Warrant Shares or scrip representing fractional Warrant Shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole Warrant Share.

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 shareholder 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 Warrant Shares issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of Warrant Shares 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% (or, upon election by a Holder prior to the issuance of any Warrants, 9.99%) of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of Warrant Shares issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of Warrant Shares upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. 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.

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 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 Warrant Shares 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 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 and such other capital stock of the Company (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock and such other capital stock of the Company (excluding treasury shares, if any) 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 shareholders 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 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 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 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 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 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 Warrant Shares 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 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). To the extent that this Warrant has not been partially or completely exercised at the time of such Distribution, such portion of the Distribution shall be held in abeyance for the benefit of the Holder until the Holder has exercised this Warrant.

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, (ii) the Company (and all of its subsidiaries, taken as a whole), 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 shares of 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) on the exercise of this Warrant), the number of shares of capital 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) 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 Warrant Share 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. 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 in accordance with the provisions of this Section 3(e) 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 Warrant Shares 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 Warrant Shares 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) 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 shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

f) 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 shareholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company (or any of its Subsidiaries) 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 are 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 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 the 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.

g) Voluntary Adjustment by Company. Subject to the rules and regulations of the Trading Market, the Company may at any time during the term of this Warrant, subject to the prior written consent of the Holder, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the board of directors of the Company.

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. 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 Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “Warrant Register”), in the name of the record Holder hereof from time to time. The Company 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 Shareholder Until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a shareholder of the Company prior to the exercise hereof as set forth in Section 2(d) (i), 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 of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

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 shares of 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 articles 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 the 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.

e) 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 their 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, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, and the Holder does not utilize cashless exercise, 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 Holder shall operate as a waiver of such right or otherwise prejudice the Holder'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 damages 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 the Company, at 2 Burlington Woods Drive, Suite 100, Burlington, MA 01803 Attention: Mr. Jeffrey Frelick, Chief Executive Officer, email address: jfrelick@bonebiologics.com, or such other email address or address as the Company may specify for such purposes by notice to the Holders. Any and all notices or other communications or deliveries to be provided by the Company 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 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 facsimile at the facsimile number or via e-mail at the e-mail address set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the time of transmission, if such notice or communication is delivered via facsimile at the facsimile number or 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. (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 (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 Warrant Shares or as a shareholder 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. 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.

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.

(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.

BONE BIOLOGICS CORPORATION

By: _____
Name:
Title:

EXHIBIT B

NOTICE OF EXERCISE

TO: BONE BIOLOGICS CORPORATION

(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.

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

☐ in lawful money of the United States; or

☐ 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]

58 398 407 457" data-label="Text">

Name of Investing Entity:
Signature of Authorized Signatory of Investing Entity:
Name of Authorized Signatory:
Title of Authorized Signatory:
Date:

EXHIBIT C

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:

EXHIBIT D

AUTHORIZED REPRESENTATIVES

Name	Title	Signature
Jeffrey Frelick	Chief Executive Officer	
Deina H. Walsh	Chief Financial Officer	



TROYGOULD PC

1801 Century Park East, Suite 1600
Los Angeles, California 90067-2367
Tel (310) 553-4441 Fax (310) 201-4746
www.troygould.com

June --, 2023

EF Hutton, a division of Benchmark Investments, LLC

Re: Bone Biologics Corporation

Ladies and Gentlemen:

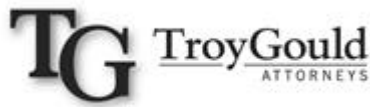
We have acted as counsel to Bone Biologics Corporation, a Delaware corporation (the “Company”), in connection with the Company’s issuance and sale today of ____ shares (the “Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), the Pre-Funded Warrants to purchase up to _____ shares of Common Stock (the “Warrants”) to purchase up to _____ shares of Common Stock pursuant to the terms of the Underwriting Agreement (the “Underwriting Agreement”), dated as of June __, 2023, between the Company and EF Hutton, a division of Benchmark Investments, LLC.

This letter is being furnished to you pursuant to Section ____ of the Agreement. Capitalized terms used and not otherwise defined in this letter have the respective meanings ascribed to them in the Agreement.

A. Reviewed Documents:

In connection with preparing and delivering this letter, we have reviewed and relied upon originals or copies of the following (collectively, the “Reviewed Documents”):

1. The Agreement;
 2. The Registration Statement;
 3. The Prospectus;
 4. The Form of Warrant;
 5. The Certificate of Incorporation of the Company, as amended, as in effect on the date of this letter, as certified by the Secretary of the Company (the “Certificate of Incorporation”);
 6. The Amended and Restated Bylaws of the Company, as in effect on the date of this letter, as certified by the Secretary of the Company (the “Bylaws”);
 7. Copies, certified by the Secretary of the Company, of certain resolutions adopted by the Company’s Board of Directors pertaining to the Agreement and related matters;
-



EF Hutton, a division of Benchmark Investments, LLC
June --, 2023
Page 2 of 7

8. Good standing certificate for the Company dated June ___, 2023 issued by the Secretary of State of the State of Delaware (the “Good Standing Certificate”);

9. The Notice of Effectiveness from the staff of the Commission filed on June ___, 2023 on the Commission’s Electronic Data Gathering, Analysis and Retrieval system to the effect that the Company’s registration statement on Form S-1 (File No. 333-271558) became effective on June ___, 2023;

10. Certain corporate records of the Company; and

11. A certificate executed by the Chief Executive Officer and Secretary of the Company, dated the date hereof, a copy of which has been delivered to you.

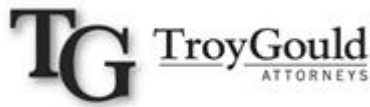
B. Assumptions:

In connection with rendering the opinions that are set forth in Section D of this letter, we have made and relied upon the following assumptions, without any investigation or inquiry by us, and the opinions that are set forth in this letter are subject to, and qualified by, such assumptions:

1. All Reviewed Documents submitted to us as originals are authentic. All copies of the Reviewed Documents examined by us conform to the originals of such documents, and such original documents are authentic. The signatures on all Reviewed Documents are authentic. All natural persons who have executed any of the Reviewed Documents have the legal capacity to do so. All Reviewed Documents obtained by us from public officials are accurate, complete and authentic. There has been no fraud or forgery with respect to any of the Reviewed Documents. All representations, warranties and other statements as to factual matters that are contained in the Reviewed Documents are accurate and complete.

2. Each contract or other document (excluding the Agreement) that the Company has filed with the Commission (a) conforms to the original of such document, (b) has been duly authorized, executed and delivered by all parties to such contract or other contract, and (c) is enforceable by and against the respective parties to such contract or other document. The Agreement has been duly authorized, executed and delivered by the counterparties thereto, is enforceable against such counterparties, and there are no agreements or understandings between the parties to the Agreement that would modify the respective rights or obligations of the parties thereunder.

3. No deletions, additions or other modifications have been made, or will be made, to the versions of the Reviewed Documents examined by us in connection with this letter.



EF Hutton, a division of Benchmark Investments, LLC
June --, 2023
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4. There has been full compliance with all state, blue sky and foreign securities laws, rules and regulations, and, except as they relate directly to the Company, with all rules and regulations of the Financial Industry Regulatory Authority, Inc. (“FINRA”), that are applicable to the Agreement and the Registration Statement and the transactions contemplated thereby.

5. The Agreement and certain other Reviewed Documents purport to be governed by the laws of states other than the State of California. We are not licensed to practice law in any state other than the State of California. To the extent that the laws of any jurisdiction other than the internal laws of the State of California, the Federal laws of the United States or the Delaware General Corporation Law (“DGCL”) may bear upon or otherwise be relevant to any of our opinions or other statements expressed in this letter, we have assumed (without rendering any opinion to such effect) that such other laws are in all respects identical to the laws of the State of California, without regard to conflict of law provisions, and would not cause any of our opinions or other statements to be incorrect or misleading or cause us otherwise to change or reword such opinions or other statements.

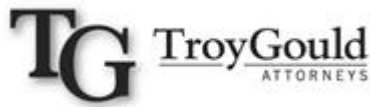
C. Knowledge:

Whenever an opinion or other statement set forth in this letter is qualified by “known to us,” “to our knowledge” or a similar phrase, it means: (1) the actual knowledge (as opposed to constructive or imputed knowledge) of those lawyers who are currently employed by our law firm and who have rendered legal services to the Company since January 1, 2020; (2) other than an inquiry of the lawyers referred to in clause (1) and our review of the Reviewed Documents, we have not conducted any independent investigation or inquiry to determine the accuracy of such opinion or statement; and (3) no inference as to our knowledge of any matters bearing on the accuracy of any such opinion or statement should be drawn from the fact of our representation of the Company.

D. Opinions:

1. The Company is validly existing as a corporation and is in good standing, under the laws of the State of Delaware with the requisite corporate power and authority to own or lease, as the case may be, and operate its respective properties, and to conduct its business, as described in the Registration Statement and the Prospectus and to enter into and perform its obligations under the Transaction Documents.

2. The Securities have been duly authorized by the Company for issuance and sale to the Purchasers in accordance with the Underwriting Agreement. When issued and delivered to the Purchasers by the Company in accordance with the terms of the Underwriting Agreement against payment by the Purchaser of the consideration set forth in such Underwriting Agreement, the Shares and, upon exercise in accordance with the terms the Warrants, including payment of the exercise price therefor, the Warrant Shares will be validly issued, fully paid and non-assessable. The Transaction Documents have been duly authorized, executed and delivered by the Company.



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3. The Company's execution, delivery and performance of the Transaction Documents and the consummation of the transactions contemplated thereby, do not and will not, whether with or without the giving of notice or the lapse of time or both, (a) violate, conflict with, or result in a breach of, any of the terms or provisions of, or constitute a default under, or result in the creation or modification of any lien, security interest, charge or encumbrance upon any of the properties or assets of the Company pursuant to the terms of, any Specified Agreement, (b) result in any violation of the provisions of the Governing Documents, or (c) violate any federal or New York state law, statute of the Delaware General Corporation Law or any judgment, order or decree of any court or governmental agency or body known to us (each, a "Governmental Entity"), except in the case of clauses (a) and (c) above, for any such conflict, breach, violation, default, lien, charge or encumbrance that would not, singly or in the aggregate, result in a Material Adverse Effect.

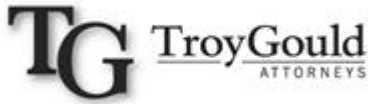
5. To our Knowledge, based solely on a review of the Notice of Effectiveness dated June [●], 2023, the Registration Statement has been declared effective by the Commission under the Securities Act and the rules promulgated thereunder, and the Prospectus was filed with the Commission pursuant to Rule 424(b)(5) under the Securities Act. To our knowledge based solely on a check of the "Stop Orders" page appearing on the Commission's website, no stop order suspending the effectiveness of the Registration Statement has been issued and no proceeding or examination for such purpose has been instituted or threatened by the Commission.

6. The Warrants constitute the legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

7. The sale of the Warrants and the exercise of the Warrants for Warrant Shares are not subject to any preemptive rights that have not been properly waived or complied with.

8. The Company is not, and after the consummation of the transactions contemplated by the Transaction Documents shall not be, an Investment Company within the meaning of the Investment Company Act of 1940, as amended.

9. Since January 1, 2019, the Company has filed all reports (the "SEC Reports") required to be filed by it under Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). As of their respective filing dates, the SEC Reports complied in all material respects as to form with the requirements of the Exchange Act and the rules and regulations of the Commission promulgated thereunder.



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E. Negative Assurance Statement:

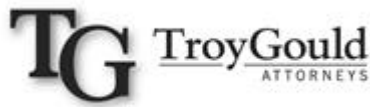
The establishment or confirmation of factual matters or of statistical, financial or quantitative information is beyond the scope and purpose of our professional engagement in this matter. Therefore, we are not passing upon and do not assume any responsibility for the accuracy, completeness or fairness of the statements contained in the Registration Statement, the Preliminary Prospectus or the Prospectus, and we have not made, or undertaken any obligation to make, any independent check or verification thereof of the accuracy, completeness or fairness of such statements. However, we have participated in telephonic conferences with officers and other representatives of the Company, representatives of the placement agents, counsel for the placement agents and the independent registered public accounting firm for the Company during which telephonic conferences the contents of the Registration Statement, the Preliminary Prospectus and the Prospectus and related matters were discussed.

Based solely upon our participation described above, we advise you that nothing has come to our attention that caused us to believe that (i) the Registration Statement (other than the financial statements, any notes thereto and related schedules and other financial and statistical data contained therein or omitted therefrom, as to which we express no view or belief), as of the time it became effective, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading, or (ii) the Prospectus (other than the financial statements, any notes thereto and related schedules and other financial and statistical data contained therein or omitted therefrom, as to which we express no view or belief), as of its date or as of the date hereof, contained or contains any untrue statement of a material fact or omitted or omits to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. Furthermore, based solely on our participation described above, we advise you that (1) the Registration Statement, as of the time it became effective, and (2) the Prospectus, as of its date (in each case other than the financial statements, any notes thereto, and supporting schedules included therein, as to which we express no view or belief), each appeared on its face to comply as to form in all material respects with the requirements of the Securities Act.

F. Qualifications and Limitations:

This letter and the opinions and statements that are set forth in this letter are limited by, and subject to, the following qualifications and limitations:

1. The only opinions that we have given in this letter are those that are expressly set forth in Section D of this letter, and no opinions are to be inferred or may be implied beyond the opinions that are expressly set forth in Section D of this letter. The statements that we have made in Section E of this letter should not be construed as express or implied opinions. The opinions and statements expressed in this letter concern only the effect of laws, rules and regulations as currently in effect. We undertake no, and hereby disclaim any, obligation to advise you of any change in any matter set forth herein, whether based on a change in laws, rules or regulations, a change in any fact relating to the Company or any other person or entity, or any other circumstance.



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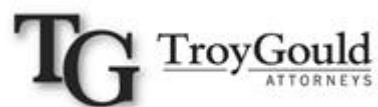
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2. We are, and are delivering this letter as, members of the State Bar of California. We neither express nor imply any opinion as to the laws of any jurisdiction other than the internal laws of the State of California, the Delaware General Corporation Law and the Federal laws of the United States that are generally applicable to transactions of the nature contemplated by the Agreement. We neither express nor imply any opinion as to any other laws. The foregoing laws considered by us exclude, and we neither express nor imply any opinion as to: (a) laws, rules and regulations of any counties, cities, towns, municipalities and special political subdivisions and any agencies thereof; (b) any state, blue sky or foreign securities laws, rules or regulations; or (c) except as they relate directly to the Company, any laws, rules or regulations of FINRA or the Board of Governors of the Federal Reserve System. Furthermore, we neither express nor imply any opinion as to antitrust, banking, environmental, patent or other intellectual property, land use, tax, pension, employee benefit, margin, usury, insolvency or fraudulent transfer laws, rules or regulations, and we do not express or imply any opinion as to compliance by the Company's Board of Directors with its fiduciary duties under applicable law. We do not express or imply any opinion as to the financial condition, results of operations or solvency of the Company. We neither express nor imply any opinion regarding compliance with Federal, state, blue sky or foreign laws, rules and regulations that apply to misstatements or omissions made in connection with the offer and sale of securities.

3. Our opinion set forth in Section D(1) regarding the valid existence and good standing of the Company is based solely upon our review of the Good Standing Certificate.

4. In rendering the opinion set forth in Section D(3) regarding the Company's execution and delivery of the Agreement, respectively, we have not necessarily observed the execution of those documents by the Company but instead have relied exclusively upon representations regarding the Company's execution and delivery of that document made in the officers' certificate referred to in Section A.10 and upon our review of copies, facsimiles or .pdf files of executed signature pages delivered to us by representatives of the Company.

5. Nothing in this letter shall be construed to cause us to be considered "experts" within the meaning of Section 11 of the Securities Act.



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6. We neither express nor imply any opinion regarding the enforceability of any provision of any contract other than the Agreement.

7. This letter is delivered to you solely in your capacity as underwriter in connection with the Agreement and the transactions contemplated by the Agreement, and this letter is solely for your benefit in connection with the transactions contemplated by the Agreement. Without our prior written consent (which may be granted or withheld in our sole discretion), neither this letter nor any portion of this letter (a) may be relied upon by any person or entity other than you or by you for any other purpose or (b) may be quoted, assigned or delivered to any other person or entity.

Very truly yours,

TROYGOULD PC

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Amendment No. 1 to the Registration Statement on Form S-1 of Bone Biologics Corporation (Registration No. 333-271558) of our report dated March 30, 2023, (which report includes an explanatory paragraph regarding the Company’s ability to continue as a going concern), relating to the consolidated financial statements of Bone Biologics Corporation as of December 31, 2022 and 2021, and for the years then ended, included in Bone Biologics Corporation’s Annual Report on Form 10-K for the year ended December 31, 2022, filed with the Securities and Exchange Commission. We also consent to the reference to our firm under the caption “Experts” in such Registration Statement.

/s/ Weinberg & Company, P.A.
Los Angeles, California

June 6, 2023

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price ⁽¹⁾⁽²⁾⁽⁴⁾	Amount of Registration Fee ⁽²⁾
Shares of Common Stock, par value \$0.001 per share ⁽³⁾	\$ 9,200,000	\$ 1,013.84
Pre-Funded Warrants ⁽³⁾		
Shares of Common Stock underlying the Common Stock underlying Pre-Funded Warrants ⁽³⁾	\$	\$
Registration Fee Previously Paid		\$ 1,102.00
Registration Fee Paid Herewith		\$ -

- (1)

Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended. Includes shares of common stock that the underwriters have the option to purchase to cover over-allotments, if any.
- (2)

Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price of the securities registered hereunder to be sold by the registrant.
- (3)

The proposed maximum aggregate offering price of the common stock will be reduced on a dollar-for-dollar basis based on the offering price of any pre-funded warrants issued in the offering, and the proposed maximum aggregate offering price of the pre-funded warrants to be issued in the offering will be reduced on a dollar-for-dollar basis based on the offering price of any common stock issued in the offering. Accordingly, the proposed maximum aggregate offering price of the common stock and pre-funded warrants (including the common stock issuable upon exercise of the pre-funded warrants), if any, is \$9,200,000.
- (4)

Pursuant to Rule 416 under the Securities Act, there is also being registered hereby such indeterminate number of additional shares of common stock of the Registrant as may be issued or issuable because of stock splits, stock dividends, stock distributions, and similar transactions.
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