

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549**

**POST-EFFECTIVE AMENDMENT NO. 2 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**

(State or Other Jurisdiction of  
Incorporation or Organization)

**3842**

(Primary Standard Industrial  
Classification Code Number)

**42-1743430**

(I.R.S. Employer  
Identification Number)

**Bone Biologics Corporation  
2 Burlington Woods Drive, Ste 100, Burlington, MA 01803  
(781) 552-4452**

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

**Stephen R. LaNeve  
Chief Executive Officer  
Bone Biologics Corporation  
2 Burlington Woods Drive, Ste 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: From time to time after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 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, 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

Accelerated filer

Non-accelerated files (Do not check if a smaller reporting company)

Smaller reporting company

Emerging growth company

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, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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### **Explanatory Note**

Bone Biologics Corporation is filing this Post-Effective Amendment No. 2 (this “Amendment”) for the sole purpose of indicating that our Common Stock is trading on the OTCQB marketplace instead of the OTC Pink market as stated in our Post-Effective Amendment No. 1. (the “Original Filing”)

Except as described above, no changes have been made to the Original Filing except for re-dating. This Amendment does not reflect events that may have occurred subsequent to the Original Filing date of September 8, 2017.

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

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**PRELIMINARY PROSPECTUS**

**SUBJECT TO COMPLETION**

DATED: October 13, 2017

**25,653,773 Shares**

**Bone Biologics Corporation**

**Common Stock**

This prospectus relates to the resale by selling stockholders named herein of up to an aggregate of 25,653,773 shares of common stock, par value \$0.001 per share, of Bone Biologics Corporation. Of the shares being offered, 12,628,316 shares are presently issued and outstanding, and 7,329,254 shares are issuable upon exercise of common stock purchase warrants. 5,696,203 shares have been issued in connection with the possible conversion of certain convertible promissory notes and are deemed to be outstanding. We refer to the footnotes in the table under “SELLING STOCKHOLDERS” for the background on the issuance of securities held by certain of such stockholders.

The selling stockholders may sell their shares of our common stock on any stock exchange, market or facility on which our common stock may be traded, in privately negotiated transactions or otherwise at market prices prevailing at the time of sale, at prices related to such market prices or at negotiated prices. We have no basis for estimating either the number of shares of our common stock that will ultimately be sold by the selling stockholders or the prices at which such shares will be sold.

Our common stock is listed for quotation on the OTCQB Marketplace under the symbol “BBLG.” On October 6, 2017, the last reported price per share of our common stock was \$5.25 per share.

All of the shares of common stock are being sold by the selling stockholders named in this prospectus. We will not receive any of the proceeds from the sale of the shares of common stock being sold by the selling stockholders. We are bearing all of the expenses in connection with the registration of the shares of common stock, but all selling and other expenses incurred by the selling stockholders, including commissions and discounts, if any, attributable to the sale or disposition of the shares will be borne by them.

You should read this prospectus, the applicable prospectus supplement, if any, and other offering materials carefully before you invest.

An investment in our common stock involves substantial risks. See “Risk Factors” beginning on page 7 of this prospectus.

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

The date of this prospectus is \_\_\_\_\_, 2017

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## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. These statements are based on the Company's (as hereinafter defined) current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to them. All statements, other than statements of historical fact, included herein regarding the Company's strategy, future operations, financial position, future revenues, projected costs, plans, prospects and objectives are forward-looking statements. Words such as "expect," "may," "anticipate," "intend," "would," "plan," "believe," "estimate," "should," and similar words and expressions are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements. Forward-looking statements in the prospectus include express or implied statements concerning the Company's future revenues, expenditures, capital or other funding requirements, the adequacy of the Company's current cash and working capital to fund present and planned operations and financing needs, expansion of and demand for product offerings, and the growth of the Company's business and operations through acquisitions or otherwise, as well as future economic and other conditions both generally and in the Company's specific geographic and product markets. These statements are based on currently available operating, financial and competitive information and are subject to various risks, uncertainties and assumptions that could cause actual results to differ materially from those anticipated or implied in the forward-looking statements due to a number of factors including, but not limited to, those set forth below in the section entitled "Risk Factors" in prospectus beginning on page 7. Given those risks, uncertainties and other factors, many of which are beyond the Company's control, you should not place undue reliance on these forward-looking statements.

Before purchasing the Shares, you should carefully read and consider the risks described under the section entitled "Risk Factors." You should be prepared to accept any and all of the risks associated with purchasing the securities, including a loss of all of your investment.

The forward-looking statements relate only to events as of the date on which the statements are made. The Company does not undertake any obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, even if experience or future changes make it clear that any projected results or events expressed or implied therein will not be realized. You are advised, however, to consult any further disclosures we make in future public filings, statements and press releases.

### SUMMARY

*This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our common stock. You should read this entire prospectus, including the section entitled "Risk Factors," and our financial statements and the notes thereto before deciding to invest in our common stock.*

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/DBX®. The NELL-1/DBX® combination product is an osteostimulative recombinant protein that provides target specific control over bone regeneration. The protein, as part of the UCB-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 FDA that NELL-1/DBX® will be classified as a combination product with a device lead.

The Company was 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 an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, which we refer to as the JOBS Act. We would cease to be an emerging growth company upon the earliest of: (i) the last day of the first fiscal year in which our annual gross revenues are \$1.07 billion or more; (ii) the end of any fiscal year in which the market value of our common stock held by non-affiliates exceeded \$700.0 million as of the end of the second quarter of that fiscal year; or (iii) the date on which we have, during the previous three-year period, issued more than \$1.07 billion in non-convertible debt securities. An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies. We have elected to take advantage of these reduced disclosure obligations, and may elect to take advantage of other reduced reporting obligations in the future.

The JOBS Act permits an emerging growth company like us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We are choosing to irrevocably “opt out” of this provision and, as a result, we will comply with new or revised accounting standards as required when they are adopted.

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, or circumvented, or that the rights granted thereunder will provide proprietary protection or competitive advantages to us.

## **PRODUCTS**

We have developed a stand-alone platform technology through significant laboratory and small and large animal research over more than ten years to generate the current applications across broad fields of use. 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. The Company 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 DBX®, a proprietary demineralized bone matrix from Musculoskeletal Transplant Foundation (“MTF”). The NELL-1/DBX® medical device is a combination product which is an osteostimulative recombinant protein that provides target specific control over bone regeneration. Leveraging the resources of investors and strategic partners, we have successfully surpassed two critical milestones:

- Demonstrating a successful small laboratory scale pilot run for the manufacturing of the recombinant NELL-1 protein in Chinese hamster ovary cells; and
- Validation of protein dosing and efficacy in established large animal sheep models and non-human primate models.

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

The NELL-1/DBX® 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 unique 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. NELL-1 is expected to perform as well as high-priced growth factors in this market.

Hip & Knee Revisions. The use of bone substitutes in reconstruction surgery is generally limited to revision cases where the products are used to account for the significant bone loss that accompanies these cases. The treatment of osteoporotic patients also represents a substantial opportunity for NELL-1's use in hip and knee reconstruction.

Implant Coating. The use of NELL-1 as a direct coating on hip and knee implants could have a very significant impact on the market. A NELL-1 coating may prolong the life of primary implants and allow for differentiation in a commodity 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.

UCLA's initial research was funded with approximately \$18 million in resources from UCLA TDG and government grants. Since licensing the exclusive worldwide intellectual property rights from UCLA TDG, our continued development has been funded through various strategic investments. Our research and development expenses, which include the fair value of stock options issued to our consultants, for the years ended December 31, 2016 and 2015 were \$11,602,776 and \$3,666,108, respectively. We anticipate that it will require an additional \$22 million to complete protein synthesis, animal studies, and commence first in man studies. An estimated additional \$137 million will be required to achieve product launch.

NELL-1's powerful specific bone and cartilage forming properties are derived from the ability of NELL-1 to only target cells that exhibit an activated "master switch" to develop into bone or cartilage. NELL-1 is a function specific recombinant human protein that has been proven in laboratory bench models to recapitulate normal human growth and development to provide control over bone and cartilage regeneration.

NELL-1 was isolated in 1996, and the first NELL-1 patent on bone regeneration was filed in 1999. Subsequent patents and continuations in part describing NELL-1 manufacturing, delivery, and cartilage regeneration were filed to further strengthen the patent portfolio.

Our business strategy is to develop our target specific platform technology to meet a current established market with improvement in patient outcomes and reduction in costs to the healthcare delivery system. Our focus continues to narrow from the research to the development stage to allow for the approval for use of our target specific protein exhibiting efficacy and safety by matching or exceeding current market approved products. Identifying the best future strategic partners to facilitate the development through pre Investigational Device Exemption ("IDE"), clinical, and ultimate commercialization is critical as we fund the pre-IDE work and continue achieving milestones. We believe that the licensing of the distribution of the NELL-1 product in the fields of use focused upon will generate sufficient funding to provide for the ongoing development of the Platform Technology across other surgical and therapeutic fields.



The orthobiologic and orthopedic industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on intellectual property. We face substantial competition from many different sources, including large and specialty orthopedic companies, biotechnology companies, academic research institutions and governmental agencies along with public and private research institutions.

The populations of interest include spine surgeons, and patients with a skeletal bone defect or bone-related condition in their spine, for which intervention is undertaken to correct such a defect. Spine surgeons and patients can choose to eliminate the need to perform a second painful surgery to obtain autograft harvest of hip bone for fusion procedures by utilizing various other types of biologics.

We have an intellectual property portfolio that includes exclusive, worldwide licenses from UCLA TDG which we believe constitute a formidable barrier to entry.

Additional patent applications are currently in preparation. The intellectual property is unique and comprehensively covers NELL-1 manufacture, NELL-1 compositions and NELL-1 use in wide ranging clinical and diagnostic applications. We protect our proprietary technology through all mechanisms including U.S. and foreign patent filings, trade secret protections, and collaboration agreements with domestic and international corporations, universities and research institutions. We are the exclusive licensee for fifteen (15) UCLA TDG issued patents.

The manufacturing and marketing of any product which we may formulate with our technologies as well as our related research and development activities are subject to regulation for safety, efficacy and quality by governmental authorities in the U.S. and other countries. We anticipate that these regulations will apply separately to each biotechnology product. The Company believes that complying with these regulations will involve a considerable level of time, expense and uncertainty.

#### ***UCLA TDG Exclusive License Agreement***

Effective August 18, 2017, the Company entered into an Amended and Restated Exclusive License Agreement (the “Restated License Agreement”) with the UCLA Technology Development Group on behalf of UC Regents (“UCLA TDG”). The Restated License Agreement amends and restates the Exclusive License Agreement, effective March 15, 2006, between the Company and UCLA TDG, as amended by ten amendments. Under the terms of the Restated License Agreement, the Regents have continued to grant the Company exclusive rights to develop and commercialize NELL-1 (the “Licensed Product”) for spinal fusion applications. The Licensed Product is a recombinant human protein growth factor that is essential for normal bone development.

Following the completion of several key milestones, Bone Biologics has expanded its Field of Use definition beyond spine fusion within the NELL-1 license agreement with UCLA TDG. Consistent with that expansion, Bone Biologics has entered into an exclusive license agreement with UCLA TDG for the worldwide application of the NELL-1 protein for both osteoporosis and trauma through a technology transfer.

We have agreed to pay an annual maintenance fee to UCLA TDG of \$10,000 as well as to pay certain royalties to UCLA TDG under the Restated License Agreement at the rate of 3.0% of net sales of licensed products. We must pay the royalties to UCLA TDG on a quarterly basis. Upon a first commercial sale, we also must pay between \$50,000 and \$250,000, depending on the calendar year that is after the first commercial sale. If we are required to pay any third party any royalties as a result of us making use of UCLA patents, then we may reduce the royalty owed to UCLA TDG by 0.333% for every percentage point paid to a third party. If we grant sublicense rights to a third party to use the UCLA TDG patent, then we will pay to UCLA TDG 10% to 20% of the sublicensing income we receive from such sublicense.

We are obligated to make the following milestone payments to UCLA TDG for each Licensed Product or Licensed Method:

- \$100,000 upon enrollment of the first subject in a Feasibility Study;
- \$250,000 upon enrollment of the first subject in a Pivotal Study;
- \$500,000 upon Pre-Market Approval of a Licensed Product or Licensed Method; and
- \$1,000,000 upon the First Commercial Sale of a Licensed Product or Licensed Method.

We are also obligated to pay UCLA TDG a cash milestone payment within thirty (30) days of a Liquidity Event (including a Change of Control Transaction and a payment election by UCLA TDG exercisable after December 22, 2016, such payment to equal the greater of:

- \$500,000; or
- 2% of all proceeds in connection with a Change of Control Transaction.

We are obligated to diligently proceed with developing and commercializing licensed products under UCLA TDG patents set forth in the Restated License Agreement. UCLA TDG has the right to either terminate the license or reduce the license to a non-exclusive license if we do not meet certain diligence milestone deadlines set forth in the Restated License Agreement.

We must reimburse or pre-pay UCLA TDG for patent prosecution and maintenance costs incurred during the term of the Restated License Agreement. We have the right to bring infringement actions against third party infringers of the Restated License Agreement, UCLA TDG may join voluntarily, at its own expense, or, at our expense, be joined involuntarily to the action. We are required to indemnify UCLA TDG against any third party claims arising out of our exercise of the rights under the Restated License Agreement or any sublicense.

## Corporate Information

Our principal executive offices are located at 2 Burlington Woods Drive, Ste 100, Burlington, MA 01803, and our telephone number is (781) 552-4452.

### The Offering

Common stock offered by the selling stockholders:	25,653,773 shares of common stock. Of the shares being offered, 12,628,316 shares are presently issued and outstanding, and 7,329,254 shares are issuable upon exercise of common stock purchase warrants. 5,696,203 shares have been issued in connection with the possible conversion of certain convertible promissory notes and are deemed to be outstanding.
Common stock outstanding:	39,077,322 shares as of August 22, 2017, excluding 10,390,820 shares issuable upon the exercise of outstanding warrants, 8,403,911 shares issuable upon exercise of outstanding options, and 9,596,203 shares issuable upon conversion of debt.
Trading market:	Our common stock is currently quoted on the OTCQB Marketplace.
Use of proceeds:	We will not receive any of the proceeds from the sale or other disposition of the shares of common stock offered hereby.
Risk factors:	We are subject to a number of risks that you should be aware of before you decide to purchase our common stock. These risks are discussed more fully in the section captioned "Risk Factors," beginning on page 7 of this prospectus.

## RISK FACTORS

*Information provided in this prospectus may contain forward-looking statements which reflect management's current view with respect to future events, the viability or efficacy of our products and our future performance. Such forward-looking statements may include projections with respect to market size and acceptance, revenues and earnings, marketing and sales strategies and business operations, as well as efficacy of our products.*

*We operate in a highly competitive and highly regulated business environment. Our business can be expected to be affected by government regulation, economic, political and social conditions, business' response to new and existing products and services, technological developments and the ability to obtain and maintain patent and/or other intellectual property protection for our products and intellectual property. Our actual results could differ materially from management's expectations because of changes both within and outside of our control. Due to such uncertainties and the risk factors set forth in this prospectus, prospective investors are cautioned not to place undue reliance upon such forward-looking statements.*

*An investment in our securities involves a high degree of risk and many uncertainties. You should carefully consider the specific factors listed below together with the other information included in this prospectus before purchasing our securities in this offering. If any of the possibilities described as risks below actually occurs, our operating results and financial condition would likely suffer and the trading price of our securities could fall, causing you to lose some or all of your investment in the securities we are offering. The following is a description of what we consider the key challenges and material risks to our business and an investment in our securities.*

### **Risks Related to Our Business**

***Our ability to grow and compete in the future will be adversely affected if adequate capital is not available to us or not available on terms favorable to us.***

The ability of our business to grow and compete depends on the availability of adequate capital. We currently have no cash flow. We cannot assure you that we will be able to obtain equity or debt financing on acceptable terms or at all to implement our growth strategy. As a result, we cannot assure you that adequate capital will be available to finance our current growth plans, take advantage of business opportunities or respond to competitive pressures, any of which could harm our business.

***Our recurring operating losses have raised substantial doubt regarding our ability to continue as a going concern.***

Our recurring operating losses raise substantial doubt about our ability to continue as a going concern. As a result, our independent registered public accounting firm included an explanatory paragraph in its report on our financial statements as and for the years ended December 31, 2016 and 2015 with respect to this uncertainty. The perception of our ability to continue as a going concern may make it more difficult for us to obtain financing for the continuation of our operations and could result in the loss of confidence by investors, suppliers and employees.

***We have incurred losses for the years ended December 31, 2016 and 2015 and we expect our operating expenses to increase in the foreseeable future, which may make it more difficult for us to achieve and maintain profitability.***

We have no significant operating history and have never been profitable. From our inception through June 30, 2017, we have generated a net loss of approximately \$49 million. We have negative cash flow from operations, working capital deficiencies and have not established the commercial viability of our products. These conditions raise doubts as to the Company's ability to continue as a going concern. The Company's December 31, 2016 audited financial statements contained a notation by our auditors regarding the Company's ability to continue as a going concern. The Company intends to raise additional debt and/or equity financing to fund future operations and to provide additional working capital. However, there is no assurance that such financing will be consummated or obtained in sufficient amounts necessary to meet the Company's needs. If cash resources are insufficient to satisfy the Company's on-going cash requirements, the Company will be required to scale back or discontinue its product development programs, or obtain funds if available (although there can be no certainties) through strategic alliances that may require the Company to relinquish rights to its technology, substantially reduce or discontinue its operations entirely. As a result, we can provide no assurance as to whether or if we will ever be profitable. If we are not able to achieve and maintain profitability, the value of our company and our common stock could decline significantly.

***There may be conflicts of interest between our management and our non-management stockholders and other affiliates.***

Conflicts of interest create the risk that management may have an incentive to act adversely to the interests of the Company. A conflict of interest may arise between our management's personal pecuniary interest and its fiduciary duty to our stockholders.

***We face a number of risks associated with our incurrence of substantial debt which could adversely affect our financial condition.***

The Company has the following debt outstanding:

<u>Note Type</u>	<u>Issue Date</u>	<u>Maturity Date</u>	<u>Interest Rate</u>	<u>June 30, 2017</u>
<i>First Secured Convertible Note</i>	10/24/14	12/31/19	8.5%	5,000,000
<i>Second Secured Convertible Note</i>	5/4/15	12/31/19	8.5%	2,000,000
<i>Third Secured Convertible Note</i>	2/24/16	2/23/19	8.5%	2,000,000
<i>Convertible Promissory Notes</i>	10/14/16	12/31/17	8.5%	1,200,000
<i>Convertible Promissory Notes</i>	02/06/17	12/31/17	8.5%	2,000,000
<i>Convertible Promissory Note</i>	08/18/17	12/31/17	8.5%	<u>700,000</u>
<b>Total Notes payable</b>				<b><u>\$ 12,900,000</u></b>

Incurring a substantial amount of debt may require us to use a significant portion of any cash flow to pay principal and interest on the debt, which will reduce the amount available to fund working capital, capital expenditures, and other general purposes. Our indebtedness may negatively impact our ability to operate our business and limit our ability to borrow additional funds by increasing our borrowing costs, and impact the terms, conditions, and restrictions contained in possible future debt agreements, including the addition of more restrictive covenants; impact our flexibility in planning for and reacting to changes in our business as covenants and restrictions contained in possible future debt arrangements may require that we meet certain financial tests and place restrictions on the incurrence of additional indebtedness and place us at a disadvantage compared to similar companies in our industry that have less debt.

***We operate in a highly competitive environment.***

The medical device industry is characterized by rapidly evolving technology and intense competition. Our competitors include major multi-national orthopedic and med-tech companies developing both generic and proprietary therapies to treat serious diseases. Many of these companies are well-established and possess technical, human, research and development, financial and sales and marketing resources significantly greater than ours. In addition, many of our potential competitors have formed strategic collaborations, partnerships and other types of joint ventures with larger, well established industry competitors that afford these companies potential research and development and commercialization advantages in the therapeutic areas we are currently pursuing.

Academic research centers, governmental agencies and other public and private research organizations are also conducting and financing research activities which may produce products directly competitive to those being developed by us. In addition, many of these competitors may be able to obtain patent protection, obtain FDA and other regulatory approvals, and begin commercial sales of their products before us.

***Our limited operating history makes it difficult to evaluate our current business and future prospects.***

We have a limited operating history, and there is a risk that we will be unable to continue as a going concern. We have minimal assets and no significant financial resources. Our limited operating history makes it difficult to evaluate our current business model and future prospects. Accordingly, you should consider our prospects in light of the costs, uncertainties, delays and difficulties frequently encountered by companies in the early stages of development. Potential investors should carefully consider the risks and uncertainties that a new company with no operating history will face. In particular, potential investors should consider that there is a significant risk that we will not be able to:

- implement or execute our current business plan, which may or may not be sound;
- maintain our anticipated management and advisory team; and
- raise sufficient funds in the capital markets to effectuate our business plan.

If we cannot execute any one of the foregoing or similar matters relating to our business, the business may fail, in which case you would lose the entire amount of your investment in the Company.

***Our future success is dependent, in part, on the performance and continued service of our officers and directors.***

We are presently dependent to a great extent upon the experience, abilities and continued services of Stephen R. LaNeve, our President and Chief Executive Officer, and Jeffrey Frelick, our Chief Operating Officer. The loss of services of Mr. LaNeve or Mr. Frelick could have a material adverse effect on our business, financial condition or results of operation.

***Acceptance of our formulations or products in the marketplace is uncertain and failure to achieve market acceptance will prevent or delay our ability to generate revenues.***

Our future financial performance will depend, at least in part, upon the introduction and customer acceptance of our products. Even if approved for marketing by the necessary regulatory authorities, our formulations or products may not achieve market acceptance. The degree of market acceptance will depend upon a number of factors, including:

- receipt of regulatory clearance of marketing claims for the uses that we are developing;
- establishment and demonstration of the advantages, safety and efficacy of our formulations, products and technologies;
- pricing and reimbursement policies of government and third-party payers such as insurance companies, health maintenance organizations and other health plan administrators;
- Our ability to attract corporate partners, including pharmaceutical companies, to assist in commercializing our proposed products; and
- Our ability to market our products.

Physicians, patients, payers or the medical community in general may be unwilling to accept, utilize or recommend any of our proposed formulations or products. If we are unable to obtain regulatory approval, commercialize and market our proposed formulations or products when planned, we may not achieve any market acceptance or generate revenue.

***Our long-term capital requirements are subject to numerous risks.***

We anticipate that it will require an additional \$22 million to complete protein synthesis, animal studies, and commence first in man studies. An estimated additional \$137 million will be required to achieve product launch. We anticipate we will need to raise substantial additional funds for the pivotal clinical trial prior to marketing our first product. Our long term capital requirements are expected to depend on many factors, including, among others:

- the number of potential formulations, products and technologies in development;
- continued progress and cost of our research and development programs;
- progress with pre-clinical studies and clinical trials;
- time and costs involved in obtaining regulatory (including FDA) clearance;
- costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims;
- costs of developing sales, marketing and distribution channels and our ability to sell our formulations or products;
- costs involved in establishing manufacturing capabilities for commercial quantities of our products;
- competing technological and market developments;
- market acceptance of our drug formulations or products;
- costs for recruiting and retaining employees and consultants;
- costs for training physicians; and
- legal, accounting and other professional costs.

We may consume available resources more rapidly than currently anticipated, resulting in the need for additional funding. We may seek to raise any necessary additional funds through equity or debt financings, collaborative arrangements with corporate partners or other sources, which may be dilutive to existing stockholders or otherwise have a material effect on our current or future business prospects. If adequate funds are not available, we may be required to significantly reduce or refocus our development and commercialization efforts with regard to our delivery technologies and our proposed formulations and products.

***Competitors could develop and/or gain FDA approval of our products for a different indication.***

We cannot provide any assurances that any other company won't obtain FDA approval for similar products that might adversely affect our ability to develop and market these products in the U.S. We are aware that other companies have intellectual property protection and have conducted clinical trials. Many of these companies may have more resources than us. We cannot provide any assurances that our products will be FDA-approved prior to our competitors.

The FDA does not regulate the practice of medicine and, as a result, cannot direct physicians to select certain products for their patients. Consequently, we might be limited in our ability to prevent off-label use of a competitor's product to treat the diseases we intend to commercialize, even if we have issued method of use patents for that indication. If we are not able to obtain and enforce our patents, a competitor could develop and commercialize similar products for the same indications that we are pursuing. We cannot provide any assurances that a competitor will not obtain FDA approval for a product that contains the same active ingredients as our products.

***We rely on method patents and patent applications and various regulatory exclusivities to protect some of our product candidates, and our ability to compete may be limited or eliminated if we are not able to protect our products.***

The patent positions of medical device companies are uncertain and involve complex legal and factual questions. We may incur significant expenses in protecting our intellectual property and defending or assessing claims with respect to intellectual property owned by others. Any patent or other infringement litigation by or against us could cause us to incur significant expense and divert the attention of our management.

Others may file patent applications or obtain patents on similar technologies or compounds that compete with our products. We cannot predict how broad the claims in any such patents or applications will be and whether they will be allowed. Once claims have been issued, we cannot predict how they will be construed or enforced. We may infringe upon intellectual property rights of others without being aware of it. If another party claims we are infringing their technology, we could have to defend an expensive and time consuming lawsuit, pay a large sum if we are found to be infringing, or be prohibited from selling or licensing our products unless we obtain a license or redesign our product, which may not be possible.

We also rely on trade secrets and proprietary know-how to develop and maintain our competitive position. Some of our current or former employees, consultants, scientific advisors, current or prospective corporate collaborators, may unintentionally or willfully disclose our confidential information to competitors or use our proprietary technology for their own benefit. Furthermore, enforcing a claim alleging the infringement of our trade secrets would be expensive and difficult to prove, making the outcome uncertain. Our competitors may also independently develop similar knowledge, methods, and know-how or gain access to our proprietary information through some other means.

***We may fail to retain or recruit necessary personnel, and we may be unable to secure the services of consultants.***

As of the date of this prospectus, we have three full-time employees. We also engaged regulatory consultants to advise us on our dealings with the FDA and other foreign regulatory authorities and have been and will be required to retain additional consultants and employees. Our future performance will depend in part on our ability to successfully integrate newly hired officers into our management team and our ability to develop an effective working relationship among senior management.

Certain of our directors, officers, scientific advisors, and consultants serve as officers, directors, scientific advisors, or consultants of other healthcare and life science companies or institutes that might be developing competitive products. Other than corporate opportunities, none of our directors are obligated under any agreement or understanding with us to make any additional products or technologies available to us. Similarly, we can give no assurances, and we do not expect and stockholders should not expect, that any biomedical or pharmaceutical product or technology identified by any of our directors or affiliates in the future would be made available to us other than corporate opportunities. We can give no assurances that any such other companies will not have interests that are in conflict with its interests.

Losing key personnel or failing to recruit necessary additional personnel would impede our ability to attain our development objectives. There is intense competition for qualified personnel in the drug-development field, and we may not be able to attract and retain the qualified personnel we need to develop our business.

We rely on independent organizations, advisors and consultants to perform certain services for us, including handling substantially all aspects of regulatory approval, clinical management, manufacturing, marketing, and sales. We expect that this will continue to be the case. Such services may not always be available to us on a timely basis.



***We rely on third parties to supply our raw materials, and if certain manufacturing-related services do not timely supply these products and services, it may delay or impair our ability to develop, manufacture and market our products.***

We rely on suppliers for raw materials and other third parties for certain manufacturing-related services to produce material that meets appropriate content, quality and stability standards and to use in clinical trials of its products. To succeed, clinical trials require adequate supplies of drug substance and drug product, which may be difficult or uneconomical to procure or manufacture. We and our suppliers and vendors may not be able to (i) produce our drug substance or drug product to appropriate standards for use in clinical studies, (ii) perform under any definitive manufacturing, supply or service agreements or (iii) remain in business for a sufficient time to successfully produce and market our product candidates. If we do not maintain important manufacturing and service relationships, we may fail to find a replacement supplier or required vendor or develop our own manufacturing capabilities which could delay or impair our ability to obtain regulatory approval for our products and substantially increase our costs or deplete profit margins, if any. If we do find replacement providers, we may not be able to enter into agreements with suppliers on favorable terms and conditions, or there could be a substantial delay before a new third party could be qualified and registered with the FDA and foreign regulatory authorities as a provider.

***Clinical trials are very expensive, time-consuming, and difficult to implement.***

Human clinical trials are very expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. The clinical trial process is also time-consuming. We estimate that clinical trials of our product candidates would take at least several years to complete. Furthermore, failure can occur at any stage of the trials, and we could encounter problems that cause us to abandon or repeat clinical trials. Commencement and completion of clinical trials may be delayed by several factors, including:

- obtaining an IDE approval with the FDA to commence clinical trials;
- identification of, and acceptable arrangements with, one or more clinical sites;
- obtaining Institutional Review Board (“IRB”) approval to commence clinical trials;
- unforeseen safety issues;
- determination of dosing;
- lack of effectiveness during clinical trials;
- slower than expected rates of patient recruitment;
- inability to monitor patients adequately during or after treatment;
- inability or unwillingness of medical investigators to follow clinical protocols; and
- unwillingness of the FDA or IRBs to permit the clinical trials to be initiated.

In addition, we, IRBs or the FDA may suspend clinical trials at any time if it appears that we are exposing participants to unacceptable health risks or if IRBs or the FDA finds deficiencies in our submissions or the conduct of our trials.

***The results of our clinical trials may not support our product candidate claims and the results of preclinical studies and completed clinical trials are not necessarily predictive of future results.***

To date, long-term safety and efficacy have not yet been demonstrated in clinical trials for any of our diagnostic product candidates. Favorable results in early studies or trials, if any, may not be repeated in later studies or trials. Even if our clinical trials are initiated and completed as planned, it cannot be certain that the results will support our product candidate claims. Success in preclinical testing and pilot clinical trials does not ensure that later pilot or pivotal clinical trials will be successful. We cannot be sure that the results of later clinical trials would replicate the results of prior clinical trials and preclinical testing. In particular, the limited results we have obtained for our tests may not predict results from studies in larger numbers of subjects drawn from more diverse populations over a longer period of time. Clinical trials may fail to demonstrate that our product candidates are safe for humans and effective for indicated uses. Any such failure could cause us to abandon a product candidate and might delay development of other product candidates. Preclinical and clinical results are frequently susceptible to varying interpretations that may delay, limit or prevent regulatory approvals or commercialization. Any delay in, or termination of, our clinical trials would delay us in obtaining FDA approval for the affected product candidate and, ultimately, our ability to commercialize that product candidate.

***We depend on third parties, including researchers, who are not under our control.***

We depend upon independent investigators and scientific collaborators, such as universities and medical institutions or private physician scientists, to conduct our preclinical and clinical trials under agreements. These collaborators are not our employees, and they cannot control the amount or timing of resources that they devote to their programs or the timing of their procurement of clinical-trial data or their compliance with applicable regulatory guidelines. Should any of these scientific inventors/advisors become disabled or die unexpectedly, or should they fail to comply with applicable regulatory guidelines, we may be forced to scale back or terminate development of that program. They may not assign as great a priority to our programs or pursue them as diligently as we would if it were undertaking those programs itself. Failing to devote sufficient time and resources to our drug-development programs, or substandard performance and failure to comply with regulatory guidelines, could result in delay of any FDA applications and our commercialization of the drug candidate involved.

These collaborators may also have relationships with other commercial entities, some of which may compete with us. Our collaborators assisting our competitors at our expense could harm our competitive position. We have been and continue to be highly dependent on our strategic partner, MTF, for technical support and administrative support.

***We may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights, as well as costs associated with lawsuits.***

If any other person files patent applications, or is issued patents, claiming technology also claimed by us, we may be required to participate in interference proceedings in the U.S. Patent and Trademark Office to determine priority of invention. We or our licensors may also need to participate in interference proceedings involving issued patents and pending applications of another entity.

The intellectual property environment in our industry is particularly complex, constantly evolving and highly fragmented. Other companies and institutions have issued patents and have filed or will file patent applications that may issue into patents that cover or attempt to cover products, processes or technologies similar to us. We have not conducted freedom-to-use patent searches on all aspects of our product candidates or potential product candidates and may be unaware of relevant patents and patent applications of third parties. In addition, the freedom-to-use patent searches that have been conducted may not have identified all relevant issued patents or pending patents. We cannot provide assurance that our proposed products in this area will not ultimately be held to infringe one or more valid claims owned by third parties which may exist or come to exist in the future or that in such case we will be able to obtain a license from such parties on acceptable terms.

We cannot guarantee that our technologies will not conflict with the rights of others. In some foreign jurisdictions, we could become involved in opposition proceedings, either by opposing the validity of another's foreign patent or by persons opposing the validity of our foreign patents.

We may also face frivolous litigation or lawsuits from various competitors or from litigious securities attorneys. The cost of any litigation or other proceeding relating to these areas, even if deemed frivolous or resolved in our favor, could be substantial and could distract management from its business. Uncertainties resulting from initiation and continuation of any litigation could have a material adverse effect on our ability to continue our operations.

***If we infringe the rights of others, we could be prevented from selling products or forced to pay damages.***

If our products, methods, processes, and other technologies are found to infringe the proprietary rights of other parties, we could be required to pay damages, or may be required to cease using the technology or to license rights from the prevailing party. Any prevailing party may be unwilling to offer us a license on commercially acceptable terms.

***Our product candidates are at an early stage of development and may not be successfully developed or commercialized.***

Our products are in the early stage of development and will require substantial further capital expenditures, development, testing, and regulatory clearances prior to commercialization. The development and regulatory approval process takes several years, and it is not likely that our products, technologies or processes, even if successfully developed and approved by the FDA, would be commercially available for five or more years. Of the large number of drugs in development, only a small percentage successfully completes the FDA regulatory approval process and is commercialized. Accordingly, even if we are able to obtain the requisite financing to fund our development programs, we cannot assure you that our product candidates will be successfully developed or commercialized. Our failure to develop, manufacture or receive regulatory approval for or successfully commercialize any of our product candidates, could result in the failure of our business and a loss of all of your investment in our company.

***Any product candidates advanced into clinical development are subject to extensive regulation, which can be costly and time consuming, cause unanticipated delays or prevent the receipt of the required approvals to commercialize such product candidates.***

The clinical development, manufacturing, labeling, storage, record-keeping, advertising, promotion, import, export, marketing and distribution of our product candidates are subject to extensive regulation by the FDA in the U.S. and by comparable health authorities in foreign markets. In the U.S., we may not be permitted to market our product candidates until we receive approval of our PMA from the FDA. The process of obtaining PMA approval is expensive, often takes many years and can vary substantially based upon the type, complexity and novelty of the products involved. In addition to the significant clinical testing requirements, our ability to obtain marketing approval for these products depends on obtaining the final results of required non-clinical testing, including characterization of the manufactured components of our product candidates and validation of our manufacturing processes. The FDA may determine that our product manufacturing processes, testing procedures or facilities are insufficient to justify approval. Approval policies or regulations may change and the FDA has substantial discretion in the approval process, including the ability to delay, limit or deny approval of a product candidate for many reasons. Despite the time and expense invested in clinical development of product candidates, regulatory approval is never guaranteed.

The FDA or another regulatory agency can delay, limit or deny approval of a product candidate for many reasons, including, but not limited to:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of clinical trials;
- We may be unable to demonstrate to the satisfaction of the FDA that a product candidate is safe and effective for any indication;
- the FDA may not accept clinical data from trials which are conducted by individual investigators or in countries where the standard of care is potentially different from the U.S.;
- the results of clinical trials may not meet the level of statistical significance required by the FDA for approval;
- We may be unable to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;

- the FDA may disagree with our interpretation of data from preclinical studies or clinical trials;
- the FDA may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we or our collaborators contract for clinical and commercial supplies; or
- the approval policies or regulations of the FDA may significantly change in a manner rendering our clinical data insufficient for approval.

With respect to foreign markets, approval procedures vary among countries and, in addition to the aforementioned risks, can involve additional product testing, administrative review periods and agreements with pricing authorities. In addition, recent events raising questions about the safety of certain marketed pharmaceuticals may result in increased cautiousness by the FDA and comparable foreign regulatory authorities in reviewing new pharmaceuticals based on safety, efficacy or other regulatory considerations and may result in significant delays in obtaining regulatory approvals. Any delay in obtaining, or inability to obtain, applicable regulatory approvals could prevent us from commercializing our product candidates.

***Any product candidate we advance into clinical trials may cause unacceptable adverse events or have other properties that may delay or prevent their regulatory approval or commercialization or limit their commercial potential.***

Unacceptable adverse events caused by any of our product candidates that we advance into clinical trials could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in the denial of regulatory approval by the FDA or other regulatory authorities for any or all targeted indications and markets. This, in turn, could prevent us from commercializing the affected product candidate and generating revenues from its sale.

We have not yet completed testing of any of our product candidates for the treatment of the indications for which we intend to seek product approval in humans, and we currently do not know the extent of adverse events, if any, that will be observed in patients who receive any of our product candidates. If any of our product candidates cause unacceptable adverse events in clinical trials, we may not be able to obtain regulatory approval or commercialize such product or, if such product candidate is approved for marketing, future adverse events could cause us to withdraw such product from the market.

***Delays in the commencement of clinical trials could result in increased costs and delay our ability to pursue regulatory approval.***

The commencement of clinical trials can be delayed for a variety of reasons, including delays in:

- obtaining regulatory clearance to commence a clinical trial;
- identifying, recruiting and training suitable clinical investigators;
- reaching agreement on acceptable terms with prospective clinical research organizations, and trial sites, the terms of which can be subject to extensive negotiation, may be subject to modification from time to time and may vary significantly among different clinical research organizations and trial sites;
- obtaining sufficient quantities of a product candidate for use in clinical trials;
- obtaining an IRB or ethics committee approval to conduct a clinical trial at a prospective site;
- identifying, recruiting and enrolling patients to participate in a clinical trial; and
- retaining patients who have initiated a clinical trial but may withdraw due to adverse events from the therapy, insufficient efficacy, fatigue with the clinical trial process or personal issues.

Any delays in the commencement of clinical trials will delay our ability to pursue regulatory approval for our product candidates. In addition, many of the factors that cause, or lead to, a delay in the commencement of clinical trials may also ultimately lead to the denial of regulatory approval of a product candidate.

***Suspensions or delays in the completion of clinical testing could result in increased costs to us and delay or prevent our ability to complete development of that product or generate product revenues.***

Once a clinical trial has begun, patient recruitment and enrollment may be slower than we anticipate. Clinical trials may also be delayed as a result of ambiguous or negative interim results or difficulties in obtaining sufficient quantities of product manufactured in accordance with regulatory requirements. Further, a clinical trial may be modified, suspended or terminated by us, an IRB, an ethics committee or a data safety monitoring committee overseeing the clinical trial, any clinical trial site with respect to that site, or the FDA or other regulatory authorities due to a number of factors, including:

- failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols;
- inspection of the clinical trial operations or clinical trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold;
- stopping rules contained in the protocol;
- unforeseen safety issues or any determination that the clinical trial presents unacceptable health risks; and/or
- lack of adequate funding to continue the clinical trial.

Any changes in the current regulatory requirements and guidance also may occur, and we may need to amend clinical trial protocols to reflect these changes. Amendments may require us to resubmit clinical trial protocols to IRBs for re-examination, which may impact the costs, timing and the likelihood of a successful completion of a clinical trial. If we experience delays in the completion of, or if we must suspend or terminate, any clinical trial of any product candidate, our ability to obtain regulatory approval for that product candidate will be delayed and the commercial prospects, if any, for the product candidate may suffer as a result. In addition, many of these factors may also ultimately lead to the denial of regulatory approval of a product candidate.

#### ***Privacy Provisions of HIPAA***

HIPAA, among other things, protects the privacy and security of individually identifiable health information by limiting its use and disclosure. HIPAA directly regulates “covered entities” (healthcare providers, insurers and clearinghouses) and indirectly regulates “business associates” with respect to the privacy of patients’ medical information. All entities that receive and process protected health information are required to adopt certain procedures to safeguard the security of that information. It is uncertain whether we would be deemed to be a covered entity under HIPAA, and it is unlikely that we, based on our current business model, would be a business associate. Nevertheless, we may be contractually required to physically safeguard the integrity and security of any patient information that we receive, store, create or transmit. If we fail to adhere to our contractual commitments, then certain of our contract counterparties may be subject to civil monetary penalties and this could adversely affect our ability to market our product. If we are deemed to be a vendor, under the Health Information Technology for Economic and Clinical Health Act, enacted as part of the American Recovery and Reinvestment Act of 2009, then we will be obligated to adopt various security measures. We may also be subject to state and foreign privacy laws under which breaches could lead to substantial fines and liability.

***We may be subject to claims that our consultants or independent contractors have wrongfully used or disclosed alleged trade secrets of their other clients or former employers to us.***

As is common in the medical device industry, we engage the services of consultants to assist in the development of our product candidates. Many of these consultants were previously employed at, or may have previously been or are currently providing consulting services to, other healthcare and life science companies, including our competitors or potential competitors. We may become subject to claims that we or our consultants have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of our former employers or their former or current customers. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

***We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications for which there may be a greater likelihood of success.***

Because we have limited financial and managerial resources, we are focused on one research program. As a result, we may forego or delay pursuit of opportunities with other product candidates or, for other indications for which there may be a greater likelihood of success or may prove to have greater commercial potential. Notwithstanding our investment to date and anticipated future expenditures, we may never successfully develop, any marketed treatments using these products. Research programs to identify new product candidates or pursue alternative indications for current product candidates require substantial technical, financial and administrative support.

***We may incur substantial product liability or indemnification claims relating to the clinical testing of our product candidates.***

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials, and claims could be brought against us if use or misuse of one of our product candidates causes, or merely appears to have caused, personal injury or death. While we have and intend to maintain product liability insurance relating to our clinical trials, our coverage may not be sufficient to cover claims that may be made, and we may be unable to maintain such insurance. Any claims, regardless of their merit, could severely harm our financial condition, strain our management and other resources or destroy the prospects for commercialization of the product which is the subject of any such claim. We are unable to predict if we will be able to obtain or maintain product liability insurance for any products that may be approved for marketing. Additionally, it is expected that we will need to enter into various agreements where we indemnify third parties for certain claims relating to the testing of our product candidates. These indemnification obligations may require us to pay significant sums of money for claims that are covered by these indemnifications.

***Our research and development activities could be affected or delayed as a result of possible restrictions on animal testing.***

Certain laws and regulations require us to test our product candidates on animals before initiating clinical trials involving humans. Animal testing activities have been the subject of controversy and adverse publicity. Animal rights groups and other organizations and individuals have attempted to stop animal testing activities by pressing for legislation and regulation in these areas and by disrupting these activities through protests and other means. To the extent the activities of these groups are successful, our research and development activities may be interrupted, delayed or become more expensive.

***We use biological materials and may use hazardous materials, and any claims relating to improper handling, storage or disposal of these materials could be time consuming or costly.***

We may use hazardous materials, including chemicals and biological agents and compounds that could be dangerous to human health and safety or the environment. Our operations also produce hazardous waste products. Federal, state and local laws and regulations govern the use, generation, manufacture, storage, handling and disposal of these materials and wastes. Compliance with applicable environmental laws and regulations may be expensive, and current or future environmental laws and regulations may impair our product development efforts. In addition, we cannot entirely eliminate the risk of accidental injury or contamination from these materials or wastes. We do not carry specific biological or hazardous waste insurance coverage, and our property and casualty and general liability insurance policies specifically exclude coverage for damages and fines arising from biological or hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be held liable for damages or penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended.

## **Risks Related to Ownership of Our Common Stock**

***Because we are registering 65.65 % of our outstanding common stock, the market price of our shares would most likely decline if a substantial number of shares were sold all at once or in large blocks.***

The offer or sale of a large number of shares under this Registration Statement may cause the market price of our common stock to fall. Sales of substantial amounts of common stock or the perception that such transactions could occur may materially and adversely affect prevailing markets prices for our common stock.

***There is a limited public trading market for our Common Stock, and you may not be able to resell your Common Stock.***

There is a limited public trading market for our securities. We cannot assure you that a regular trading market will develop or that if developed, will be sustained. In the absence of a trading market, an investor may be unable to liquidate its investment, which will result in the loss of your investment.

***We have no plans to pay dividends.***

To date, we have paid no cash dividends on our Common Stock. For the foreseeable future, earnings generated from our operations will be retained for use in our business and not to pay dividends.

***The application of the SEC's "penny stock" rules to our Common Stock could limit trading activity in the market, and our stockholders may find it more difficult to sell their stock.***

It is expected that our Common Stock will be trading at less than \$5.00 per share and will therefore be subject to the SEC's penny stock rules. Penny stocks generally are equity securities with a price of less than \$5.00. Penny stock rules require a broker-dealer, prior to a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document that provides information about penny stocks and the risks in the penny stock market. The broker-dealer also must provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker-dealer and its salesperson in the transaction, and monthly account statements showing the market value of each penny stock held in the customer's account. The broker-dealer must also make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's written agreement to the transaction. These requirements may have the effect of reducing the level of trading activity, if any, in the secondary market for a security that becomes subject to the penny stock rules. The additional burdens imposed upon broker-dealers by such requirements may discourage broker-dealers from effecting transactions in our securities, which could severely limit their market price and liquidity of our securities. These requirements may restrict the ability of broker-dealers to sell our Common Stock and may affect your ability to resell our Common Stock.

***If we are unable to establish appropriate internal financial reporting controls and procedures, it could cause us to fail to meet our reporting obligations, result in the restatement of our financial statements, harm our operating results, subject us to regulatory scrutiny and sanction, cause investors to lose confidence in our reported financial information and have a negative effect on the market price for shares of our Common Stock.***

Effective internal controls are necessary for us to provide reliable financial reports and to effectively prevent fraud. We maintain a system of internal control over financial reporting, which is defined as a process designed by, or under the supervision of, our principal executive officer and principal financial officer, or persons performing similar functions, and effected by our Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

As a public company, we have significant additional requirements for enhanced financial reporting and internal controls. We are required to document and test our internal control procedures in order to satisfy the requirements of Section 404 of the Sarbanes-Oxley Act of 2002, which requires annual management assessments of the effectiveness of our internal controls over financial reporting and a report by our independent registered public accounting firm addressing these assessments. The process of designing and implementing effective internal controls is a continuous effort that requires us to anticipate and react to changes in our business and the economic and regulatory environments and to expend significant resources to maintain a system of internal controls that is adequate to satisfy our reporting obligations as a public company.

We cannot assure you that we will, in the future, identify areas requiring improvement in our internal control over financial reporting. We cannot assure you that the measures we will take to remediate any areas in need of improvement will be successful or that we will implement and maintain adequate controls over our financial processes and reporting in the future as we continue our growth. If we are unable to establish appropriate internal financial reporting controls and procedures, it could cause us to fail to meet our reporting obligations, result in the restatement of our financial statements, harm our operating results, subject us to regulatory scrutiny and sanction, cause investors to lose confidence in our reported financial information and have a negative effect on the market price for shares of our Common Stock.

***The market price of our Common Stock may be volatile.***

The market price of our Common Stock may be highly volatile. Some of the factors that may materially affect the market price of our Common Stock are beyond our control, such as changes in financial estimates by industry and securities analysts, conditions or trends in the industry in which we operate or sales of our Common Stock. These factors may materially adversely affect the market price of our Common Stock, regardless of our performance. In addition, public stock markets have experienced extreme price and trading volume volatility. This volatility has significantly affected the market prices of securities of many companies for reasons frequently unrelated to the operating performance of the specific companies. These broad market fluctuations may adversely affect the market price of our Common Stock.

***Because our directors and executive officers are among our largest stockholders, they can exert significant control over our business and affairs and have actual or potential interests that may depart from those of investors in the subsequent financings.***

The holdings of our directors and executive officers may increase in the future upon vesting or other maturation of exercise rights under any of the options or warrants they may hold or in the future be granted or if they otherwise acquire additional shares of Common Stock. The interests of such persons may differ from the interests of our other stockholders, including purchasers of our securities, including shares of Common Stock, in future financing. As a result, in addition to their board seats and offices, such persons will have significant influence over and control all corporate actions requiring stockholder approval, irrespective of how the Company's other stockholders, including purchasers in the future financings, may vote, including the following actions:

- to elect or defeat the election of our directors;
- to amend or prevent amendment of our Amended and Restated Certificate of Incorporation or By-laws;
- to effect or prevent a merger, sale of assets or other corporate transaction; and
- to control the outcome of any other matter submitted to our stockholders for vote.

This concentration of ownership by itself may have the effect of impeding a merger, consolidation, takeover or other business consolidation, or discouraging a potential acquirer from making a tender offer for the Common Stock which in turn could reduce our stock price or prevent our stockholders from realizing a premium over our stock price.

***We cannot assure you that the Common Stock will be listed on NASDAQ or any other securities exchange.***

We intend to seek a possible listing of our Common Stock on NASDAQ. However, we cannot assure you that we will be able to meet the initial listing standards of either of those or any other stock exchange, or that we will be able to maintain a listing of the Common Stock on either of those or any other stock exchange. This would also make it more difficult for us to raise additional capital. There are no assurances that an active market for our shares will develop even if we are listed.



*We may issue more shares in a future financing or pursuant to existing agreements which will result in substantial dilution.*

Our Amended and Restated Certificate of Incorporation authorizes the issuance of a maximum of 100,000,000 shares of Common Stock and a maximum of 20,000,000 shares of Preferred Stock. Any future merger or acquisition effected by us would result in the issuance of additional securities without stockholder approval and the substantial dilution in the percentage of our Common Stock held by our then existing stockholders. Moreover, the Common Stock issued in any such merger or acquisition transaction may be valued on an arbitrary or non-arm's-length basis by our management, resulting in an additional reduction in the percentage of Common Stock held by our then existing stockholders. Additionally, we expect to seek additional financing in order to provide working capital to the operating business. Our Board of Directors has the power to issue any or all of such authorized but unissued shares without stockholder approval. To the extent that additional shares of Common Stock or Preferred Stock are issued in connection with and following a business combination or otherwise, dilution to the interests of our stockholders will occur and the rights of the holders of Common Stock might be materially and adversely affected.

*Our Board of Directors is authorized to issue Preferred Stock without obtaining shareholder approval.*

Our Amended and Restated Certificate of Incorporation authorizes the issuance of up to 20,000,000 shares of Preferred Stock with designations, rights and preferences determined from time to time by the Board of Directors. Accordingly, our Board of Directors is empowered, without stockholder approval, to issue Preferred Stock with dividend, liquidation, conversion, voting, or other rights which could adversely affect the voting power or other rights of the holders of the Common Stock. In the event of issuance, the Preferred Stock could be utilized, under certain circumstances, as a method of discouraging, delaying or preventing a change in control of the Company. Although we have no present intention to issue any shares of Preferred Stock, there can be no assurance that the Company will not do so in the future.

*There can be no assurance that the results and events contemplated by forward-looking statements will, in fact, transpire.*

There are statements in this Registration Statement that are not historical facts. These "forward-looking statements" can be identified by the use of terminology such as "believe," "hope," "may," "anticipate," "should," "intend," "plan," "will," "expect," "estimate," "project," "positioned," "strategy" and similar expressions. You should be aware that these forward-looking statements are subject to risks and uncertainties that are beyond our control. Actual results could differ significantly from these forward-looking statements. In light of these risks and uncertainties, there can be no assurance that the results and events contemplated by the forward-looking statements contained in this Registration Statement will in fact transpire. You are cautioned to not place undue reliance on these forward-looking statements, which speak only as of their dates. We do not undertake any obligation to update or revise any forward-looking statements.

**IN ADDITION TO THE ABOVE RISKS, BUSINESSES ARE OFTEN SUBJECT TO RISKS NOT FORESEEN OR FULLY APPRECIATED BY OUR MANAGEMENT. IN REVIEWING THIS PROSPECTUS, POTENTIAL INVESTORS SHOULD KEEP IN MIND THAT THERE MAY BE OTHER POSSIBLE RISKS THAT COULD BE IMPORTANT.**

## USE OF PROCEEDS

We will not receive any of the proceeds from the sale or other disposition of the shares of common stock offered hereby.

## DIVIDEND POLICY

To date, we have paid no cash dividends on our common stock. For the foreseeable future, earnings generated from our operations will be retained for use in our business and not to pay dividends.

## DETERMINATION OF OFFERING PRICE

The selling stockholders will sell their shares of our common stock at prevailing market prices or privately negotiated prices. There is currently a very limited public market for our common stock.

## DILUTION

Except for shares of common stock issuable upon the exercise of warrants, the common stock to be sold by the selling stockholders is common stock that is issued and outstanding. Accordingly, there will be no dilution to our existing stockholders.

## CAPITALIZATION

The table below sets forth our cash and capitalization as of June 30, 2017 on an actual basis. You should read this table together with the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes appearing elsewhere in this prospectus.

	<b>As of June 30, 2017 Actual</b>
<b>Cash</b>	<b>\$ 783,014</b>
<b>Stockholders' deficit</b>	
Preferred Stock, \$0.001 par value per share; 20,000,000 shares authorized; None issued and outstanding	
Common stock, \$0.001 par value per share; 100,000,000 shares authorized; 38,828,607 shares issued and outstanding	\$ 38,829
Additional paid-in-capital	38,865,042
Accumulated deficit	<u>(49,153,642)</u>
Total stockholders' deficit	<b>\$ (10,249,771)</b>
<b>Total capitalization</b>	<b>\$ (10,249,771)</b>

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of the results of operations and financial condition for the years ended December 31, 2016 and 2015 and for the three and six month periods ended June 30, 2017 and 2016 of the Company should be read in conjunction with our financial statements and the notes to those financial statements included elsewhere in this prospectus. The financial statements should not be relied on for an understanding of our current financial status. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. You should review the "Risk Factors" section of this prospectus for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

### 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/DBX®. The NELL-1/DBX® combination product is an osteostimulative recombinant protein that provides target specific control over bone regeneration. The protein, as part of the UCB-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 FDA that NELL-1/DBX® will be classified as a combination product with a device lead.

The Company was 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 an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, which we refer to as the JOBS Act. We would cease to be an emerging growth company upon the earliest of: (i) the last day of the first fiscal year in which our annual gross revenues are \$1.07 billion or more; (ii) the end of any fiscal year in which the market value of our common stock held by non-affiliates exceeded \$700.0 million as of the end of the second quarter of that fiscal year; or (iii) the date on which we have, during the previous three-year period, issued more than \$1.07 billion in non-convertible debt securities. An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies. We have elected to take advantage of these reduced disclosure obligations, and may elect to take advantage of other reduced reporting obligations in the future.

The JOBS Act permits an emerging growth company like us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We are choosing to irrevocably "opt out" of this provision and, as a result, we will comply with new or revised accounting standards as required when they are adopted.

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, or circumvented, or that the rights granted thereunder will provide proprietary protection or competitive advantages to us.

### ***UCLA TDG Exclusive License Agreement***

Effective August 18, 2017, the Company entered into an Amended and Restated Exclusive License Agreement (the “Restated License Agreement”) with the UCLA Technology Development Group on behalf of UC Regents (“UCLA TDG”). The Restated License Agreement amends and restates the Exclusive License Agreement, effective March 15, 2006, between the Company and UCLA TDG, as amended by ten amendments. Under the terms of the Restated License Agreement, the Regents have continued to grant the Company exclusive rights to develop and commercialize NELL-1 (the “Licensed Product”) for spinal fusion applications. The Licensed Product is a recombinant human protein growth factor that is essential for normal bone development.

Following the completion of several key milestones, Bone Biologics has expanded its Field of Use definition beyond spine fusion within the NELL-1 license agreement with UCLA TDG. Consistent with that expansion, Bone Biologics has entered into an exclusive license agreement with UCLA TDG for the worldwide application of the NELL-1 protein for both osteoporosis and trauma through a technology transfer.

We have agreed to pay an annual maintenance fee to UCLA TDG of \$10,000 as well as to pay certain royalties to UCLA TDG under the Restated License Agreement at the rate of 3.0% of net sales of licensed products. We must pay the royalties to UCLA TDG on a quarterly basis. Upon a first commercial sale, we also must pay between \$50,000 and \$250,000, depending on the calendar year which is after the first commercial sale. If we are required to pay any third party any royalties as a result of us making use of UCLA TDG patents, then we may reduce the royalty owed to UCLA TDG by 0.333% for every percentage point paid to a third party. If we grant sublicense rights to a third party to use the UCLA TDG patent, then we will pay to UCLA TDG 10% to 20% of the sublicense income we receive from such sublicense.

We are obligated to make the following milestone payments to UCLA TDG for each Licensed Product or Licensed Method:

- \$100,000 upon enrollment of the first subject in a Feasibility Study;
- \$250,000 upon enrollment of the first subject in a Pivotal Study;
- \$500,000 upon Pre-Market Approval of a Licensed Product or Licensed Method; and
- \$1,000,000 upon the First Commercial Sale of a Licensed Product or Licensed Method.

We are also obligated to pay UCLA TDG a cash milestone payment within thirty (30) days of a Liquidity Event (including a Change of Control Transaction and a payment election by UCLA TDG exercisable after December 22, 2016, such payment to equal the greater of:

- \$500,000; or
- 2% of all proceeds in connection with a Change of Control Transaction.

We are obligated to diligently proceed with developing and commercializing licensed products under UCLA TDG patents set forth in the Restated License Agreement. UCLA TDG has the right to either terminate the license or reduce the license to a non-exclusive license if we do not meet certain diligence milestone deadlines set forth in the Restated License Agreement.

We must reimburse or pre-pay UCLA TDG for patent prosecution and maintenance costs incurred during the term of the Restated License Agreement. We have the right to bring infringement actions against third party infringers of the Restated License Agreement, UCLA TDG may join voluntarily, at its own expense, or, at our expense, be joined involuntarily to the action. We are required to indemnify UCLA TDG against any third party claims arising out of our exercise of the rights under the Restated License Agreement or any sublicense.

## Results of Operations

Since our inception, we devoted substantially all of our efforts and funding to the development of the NELL-1 protein and raising capital. We have not yet generated revenues from our planned operations.

### *Three Months ended June 30, 2017 compared to the Three Months ended June 30, 2016*

	<b>Three Months ended June 30, 2017</b>	Three Months ended June 30, 2016	% Change
Operating expenses			
Research and development	\$ (3,093,863)	\$ 2,318,735	(233.43)%
General and administrative	1,118,900	1,969,863	(43.20)%
<b>Total operating expenses</b>	<b>(1,974,963)</b>	4,288,598	(146.05)%
<b>Net Income (Loss) from operations</b>	<b>1,974,963</b>	(4,288,598)	(146.05)%
Interest expense, net	(1,108,742)	(511,588)	116.73%
<b>Net Income (Loss) before provision for income taxes</b>	<b>866,221</b>	(4,800,186)	(118.05)%
Provision for income taxes	1,600	-	100.00%
<b>Net Income (Loss)</b>	<b>\$ 864,621</b>	\$ (4,800,186)	(118.01)%

### *Research and Development*

Our research and development expenses decreased from \$2,318,735 during the three months ended June 30, 2016 to \$(3,093,863) during the three months ended June 30, 2017. The \$5,412,598 decrease was primarily due to the fair value of options forfeited with the termination of the Professional Services Agreements with each of the Founders in April 2017. Our policy is to account for forfeitures when they occur; therefore these forfeitures are recorded as a reversal to expense. Forfeiture reversals related to the termination of the Agreements was \$3,629,041 in research and development expense. We will continue to incur significant expenses for development activities for NELL-1.

### *General and Administrative*

Our general and administrative expenses decreased from \$1,969,863 during the three months ended June 30, 2016 to \$1,118,900 during the three months ended June 30, 2017. The \$850,963 decrease was primarily due to the amortization of the fair value of management options; decreased legal expense and consulting services incurred in 2016.

### *Interest Expense*

Our net interest expense increased from \$511,588 for the three months ended June 30, 2016 to \$1,108,742 during the three months ended June 30, 2017. The increase in interest of \$597,154 was related to our new loans in October 2016 and February 2017 and amortization of the fair value of the related beneficial conversion feature.

*Six Months ended June 30, 2017 compared to the Six Months ended June 30, 2016*

	<b>Six Months ended June 30, 2017</b>	<b>Six Months ended June 30, 2016</b>	<b>% Change</b>
Operating expenses			
Research and development	\$ (1,902,450)	\$ 6,996,936	(127.19)%
General and administrative	2,087,661	3,851,889	(45.80)%
Total operating expenses	<u>185,211</u>	<u>10,848,825</u>	<u>(98.29)%</u>
Loss from operations	(185,211)	(10,848,825)	(98.29)%
Loss on disposal of assets	-	(4,862)	(100.00)%
Interest expense, net	<u>(2,022,774)</u>	<u>(922,797)</u>	<u>119.20%</u>
Total other income/expense	<u>(2,022,774)</u>	<u>(927,659)</u>	<u>118.05%</u>
Loss before provision for income taxes	<u>(2,207,985)</u>	<u>(11,776,484)</u>	<u>(81.25)%</u>
Provision for income taxes	1,600	1,600	-%
Net loss	<u>\$ (2,209,585)</u>	<u>\$ (11,778,084)</u>	<u>(81.24)%</u>

*Research and Development*

Our research and development expenses decreased from \$6,996,936 during the six months ended June 30, 2016 to \$(1,902,450) during the six months ended June 30, 2017. The \$8,899,386 decrease was primarily due to the fair value of options forfeited with the termination of the Professional Services Agreements with each of the Founders in April 2017. Our policy is to account for forfeitures when they occur; therefore these forfeitures are recorded as a reversal to expense. Forfeiture reversals related to the termination of the Agreements was \$3,629,041 in research and development expense. We will continue to incur significant expenses for development activities for NELL-1.

*General and Administrative*

Our general and administrative expenses decreased from \$3,851,889 during the six months ended June 30, 2016 to \$2,087,661 during the six months ended June 30, 2017. The \$1,764,228 decrease was primarily due to the amortization of the fair value of management options; decreased legal expense and consulting services incurred in 2016.

*Interest Expense*

Our net interest expense increased from \$922,797 for the six months ended June 30, 2016 to \$2,022,774 during the six months ended June 30, 2017. The increase in interest of \$1,099,977 was related to our new loans in October 2016 and February 2017 and amortization of the fair value of the related beneficial conversion feature.

*Year ended December 31, 2016 compared to the Year ended December 31, 2015*

	Year ended December 31, 2016	Year ended December 31, 2015	% Change
Operating expenses			
Research and development	\$ 11,602,776	\$ 3,666,108	216.49%
General and administrative	6,246,461	8,329,978	(25.01)%
Total operating expenses	<u>17,849,237</u>	<u>11,996,086</u>	48.79%
Loss from operations	(17,849,237)	(11,996,086)	48.79%
Other expense	(4,862)	-	100.00%
Interest expense, net	(3,172,872)	(1,872,001)	69.49%
Total other income/expense	<u>(3,177,734)</u>	<u>(1,872,001)</u>	69.75%
Loss before provision for income taxes	<u>(21,026,971)</u>	<u>(13,868,087)</u>	51.62%
Provision for income taxes	2,243	8,840	(74.64)%
Net loss	<u>\$ (21,029,214)</u>	<u>\$ (13,876,927)</u>	51.54%

*Research and Development*

Our research and development expenses increased from \$3,666,108 during the year ended December 31, 2015 to \$11,602,776 during the year ended December 31, 2016. The \$7,936,668 increase was primarily due to options issued to research and development consultants of \$6,085,950, expense of our Sygnal license of \$1,435,000 and increases in patent costs and development activities for our lead product NELL-1/DBX®. We will continue to incur significant expenses for development activities for NELL-1/DBX®.

*General and Administrative*

Our general and administrative expenses decreased from \$8,329,978 during the year ended December 31, 2015 to \$6,246,461 during the year ended December 31, 2016. The \$2,083,517 decrease was primarily due to the issuance of shares for the MTF Revised Milestone Side Letter Agreement and fair value of services provided by AFH offset by increased wages for our CEO and COO who began serving the Company in August of 2015.

*Interest Expense*

Our net interest expense increased from \$1,872,001 for the year ended December 31, 2015 to \$3,172,872 during the year ended December 31, 2016. The increase in interest of \$1,300,871 was related to interest and debt discount costs in connection with our new loans in February and October 2016 offset by warrants expensed in February 2015.

## Liquidity and Capital Resources

	<u>June 30, 2017</u> (unaudited)	<u>December 31, 2016</u>
<b>Assets</b>		
<b>Current assets</b>		
Cash	\$ 783,014	\$ 620,375
Prepaid expenses	85,181	80,523
Prepaid expenses – Related Party	271,945	271,945
Total current assets	<u>1,140,140</u>	<u>972,843</u>
Property and equipment, net	<u>194</u>	<u>242</u>
Total assets	<u>\$ 1,140,334</u>	<u>\$ 973,085</u>
<b>Liabilities and Stockholders' Deficit</b>		
<b>Current liabilities</b>		
Accounts payable and accrued expenses	\$ 432,330	\$ 260,149
Current notes payable, net of debt discount of \$1,090,910 and \$-0-, respectively	2,109,090	1,200,000
Deferred compensation	141,667	41,667
Shares to be issued	1,823,077	1,823,077
Total current liabilities	<u>4,506,164</u>	<u>3,324,893</u>
Note payable, net of debt discount of \$2,116,059 and \$2,717,752, respectively	<u>6,883,941</u>	<u>6,282,248</u>
Total liabilities	<u>11,390,105</u>	<u>9,607,141</u>
<b>Commitments and Contingencies</b>		
<b>Stockholders' deficit</b>		
Preferred Stock, \$0.001 par value per share; 20,000,000 shares authorized; none issued or outstanding at June 30, 2017 and December 31, 2016	-	-
Common stock, \$0.001 par value per share; 100,000,000 shares authorized; 38,828,607 shares issued and outstanding at June 30, 2017 and December 31, 2016	38,829	38,829
Additional paid-in capital	38,865,042	38,271,173
Accumulated deficit	<u>(49,153,642)</u>	<u>(46,944,058)</u>
Total stockholders' deficit	<u>(10,249,771)</u>	<u>(8,634,056)</u>
Total liabilities and stockholders' deficit	<u>\$ 1,140,334</u>	<u>\$ 973,085</u>

We have no significant operating history and, from our inception to June 30, 2017, we have generated a net loss of approximately \$49 million. The financial statements for the six months ended June 30, 2017 and 2016 were prepared assuming we will continue as a going concern. Operating expenditures for the next twelve months are estimated at \$5.5 million. The Company has principal payment requirements for the next 12 months of \$3,200,000.

The Company will continue to incur significant expenses for development activities for our lead product NELL-1. The Company's December 31, 2016 audited financial statements contained a notation by our auditors regarding the Company's ability to continue as a going concern. The accompanying condensed consolidated financial statements for the six months ended June 30, 2017 and 2016, have been prepared assuming the Company will continue as a going concern. The Company closed on \$2 million of debt financing in February 2017.

The Company intends to raise additional debt and/or equity financing to fund future operations and to provide additional working capital. However, there is no assurance that such financing will be consummated or obtained in sufficient amounts necessary to meet the Company's needs. If cash resources are insufficient to satisfy the Company's on-going cash requirements, the Company will be required to scale back or discontinue its product development programs, or obtain funds if available (although there can be no certainties) through strategic alliances that may require the Company to relinquish their rights to its technology, or discontinue its operations entirely.

As of June 30, 2017 and December 31, 2016, we had cash of \$783,014 and \$620,375, respectively.



## Cash Flows

The following is a summary of our cash flows provided by operating, investing and financing activities for the six months ended June 30, 2017 and 2016:

	<b>Six Months Ended June 30, 2017</b>	<b>Six Months Ended June 30, 2016</b>
	<b>(unaudited)</b>	<b>(unaudited)</b>
<b>Operating activities</b>		
Net loss	\$ (2,209,585)	\$ (11,778,084)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	48	620
Amortization of prepaid expenses – related party	-	39,093
Debt discount amortization	1,392,103	415,653
Debt issuance costs amortization	153,680	147,151
Stock-based compensation	1,038,239	1,939,157
Options issued to consultants	(2,444,369)	2,874,147
Warrants issued to consultants	-	100,930
Interest expense deducted from loan proceeds	-	1,889
Loss on disposal of assets	-	4,862
Shares issued for Sygnal license	-	1,435,000
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(4,658)	(29,203)
Accounts payable and accrued expenses	172,181	294,890
Deferred compensation	100,000	-
<b>Net cash (used in) operating activities</b>	<b>(1,837,361)</b>	<b>(4,553,895)</b>
<b>Financing activities</b>		
Proceeds from exercise of warrants		1,250,000
Proceeds from issuance of common stock		2,500,000
Proceeds from issuance of notes payable	2,000,000	1,883,111
<b>Net cash provided by financing activities</b>	<b>2,000,000</b>	<b>5,633,111</b>
<b>Net increase in cash</b>	<b>162,639</b>	<b>1,079,216</b>
<b>Cash, beginning of period</b>	<b>620,375</b>	<b>1,115,109</b>
<b>Cash, end of period</b>	<b>\$ 783,014</b>	<b>\$ 2,194,325</b>
<b>Supplemental non-cash information</b>		
Interest paid	\$ 436,192	\$ 360,306
Taxes paid	\$ 1,600	\$ 1,600

### *Operating activities*

During the six months ended June 30, 2017 and 2016, cash used in operating activities was \$1,837,361 and \$4,553,895 respectively. Cash expenditures the six months ended June 30, 2017 decreased primarily due to the timing of our development activities with our Contracted Manufacturing Organization (“CMO”) and management’s cash conservation efforts including a 20% deferral of wages and the Board’s 50% deferral of cash compensation.

## Financing activities

During the six months ended June 30, 2017, cash provided in financing activities of \$2,000,000 resulted from the February 10, 2017 convertible notes. Cash provided during the six months ended June 30, 2016, of \$5,633,111 resulted from the \$1,883,311 proceeds, net of financing fee, of the February 24, 2016 note, exercise of \$1,250,000 of warrants and \$2,500,000 in equity financing.

The following is a summary of our cash flows provided by operating, investing and financing activities for the years ended December 31, 2016 and 2015:

	<u>December 31, 2016</u>	<u>December 31, 2015</u>
<b>Assets</b>		
<b>Current assets</b>		
Cash	\$ 620,375	\$ 1,115,109
Prepaid expenses	80,523	85,998
Prepaid expenses – Related Party	271,945	339,931
Total current assets	<u>972,843</u>	<u>1,541,038</u>
Property and equipment, net	242	5,804
Total assets	<u>\$ 973,085</u>	<u>\$ 1,546,842</u>
<b>Liabilities and Stockholders' Deficit</b>		
<b>Current liabilities</b>		
Accounts payable and accrued expenses	\$ 260,149	\$ 322,078
Current notes payable	1,200,000	-
Deferred compensation	41,667	-
Shares to be issued	1,823,077	1,823,077
Total current liabilities	<u>3,324,893</u>	<u>2,145,155</u>
Notes payable, net of debt discount of \$2,717,752 and \$1,917,248, respectively	<u>6,282,248</u>	<u>5,082,752</u>
Total liabilities	<u>9,607,141</u>	<u>7,227,907</u>
<b>Commitments and Contingencies</b>		
<b>Stockholders' deficit</b>		
Preferred Stock, \$0.001 par value per share; 20,000,000 shares authorized; none issued or outstanding at December 31, 2016 and 2015	-	-
Common stock, \$0.001 par value per share; 100,000,000 shares authorized; 38,828,607 and 32,211,956 shares issued and outstanding at December 31, 2016 and 2015, respectively	38,829	32,212
Additional paid-in capital	38,271,173	20,201,567
Accumulated deficit	<u>(46,944,058)</u>	<u>(25,914,844)</u>
Total stockholders' deficit	<u>(8,634,056)</u>	<u>(5,681,065)</u>
Total liabilities and stockholders' deficit	<u>\$ 973,085</u>	<u>\$ 1,546,842</u>

We have no significant operating history and, from our inception to December 31, 2016, we have generated a net loss of approximately \$46.9 million. The financial statements for the year ended December 31, 2016 and 2015 were prepared assuming we will continue as a going concern. Operating expenditures for the next twelve months are estimated at \$3.5 million. The Company has principal payment requirements of \$1,200,000 for the next 12 months.

The Company will continue to incur significant expenses for development activities for our lead product NELL-1/DBX®. The Company's December 31, 2016 audited financial statements contain a notation by our auditors regarding the Company's ability to continue as a going concern. The accompanying consolidated financial statements for the years ended December 31, 2016 and 2015, have been prepared assuming the Company will continue as a going concern. The Company closed on \$5.7 million of debt and equity financing in February 2016 and \$1.2 million of convertible notes in October 2016. Pursuant to the October 2016 Note Purchase Agreement, the Company may only use the proceeds from the issuance of the convertible notes to focus on prioritizing operations on essential research and development activities. Also pursuant to the October 2016 Note Purchase Agreement, the Company's management has agreed to defer 20% of earned compensation and the Board of Directors has authorized a change in director compensation to defer 50% of the directors' cash compensation until at least \$5,000,000 has been received in cumulative funding from non-current stockholders. In February 2017, the Company closed on \$2.0 million of convertible notes.

The Company intends to raise additional debt and/or equity financing to fund future operations and to provide additional working capital. However, there is no assurance that such financing will be consummated or obtained in sufficient amounts necessary to meet the Company's needs. If cash resources are insufficient to satisfy the Company's on-going cash requirements, the Company will be required to scale back or discontinue its product development programs, or obtain funds if available (although there can be no certainties) through strategic alliances that may require the Company to relinquish rights to its technology, substantially reduce or discontinue its operations entirely.

As of December 31, 2016 and 2015, we had cash of \$620,375 and \$1,115,109, respectively.

## Cash Flows

The following is a summary of our cash flows provided by operating, investing and financing activities for the year ended December 31, 2016 and 2015:

	Year Ended December 31, 2016	Year Ended December 31, 2015
<b>Operating activities</b>		
Net loss	\$ (21,029,214)	\$ (13,876,927)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation	700	4,451
Interest expense	-	105,669
Amortization of prepaid expenses – related party	67,986	-
Debt discount amortization	2,098,665	623,101
Debt issuance costs amortization	300,831	661,617
Stock-based compensation	3,460,078	3,700,431
Options issued to consultants	6,085,950	-
Warrants issued to consultants	-	497,003
Interest expense deducted from loan proceeds	1,889	-
Loss on disposal of assets	4,862	1,870
Shares issued for services	100,930	2,825,943
Shares to be issued for research & development services	-	1,823,077
Shares issued for Sygnal license	1,435,000	-
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	29,475	3,519
Deferred financing costs	-	(185,000)
Other receivables - related party	-	75,000
Accounts payable and accrued expenses	73,336	194,463
Deferred compensation	41,667	-
Net cash (used in) operating activities	<u>(7,327,845)</u>	<u>(3,545,783)</u>
<b>Investing activities</b>		
Purchase of property and equipment	-	(504)
Net cash (used in) investing activities	<u>-</u>	<u>(504)</u>
<b>Financing activities</b>		
Proceeds from the issuance of common stock	2,500,000	-
Proceeds from the exercise of warrants	1,250,000	-
Proceeds from issuance of notes payable	3,083,111	2,000,000
Net cash provided by financing activities	<u>6,833,111</u>	<u>2,000,000</u>
<b>Net (decrease) in cash</b>	<b>(494,734)</b>	<b>(1,546,287)</b>
<b>Cash, beginning of year</b>	<b>1,115,109</b>	<b>2,661,396</b>
<b>Cash, end of year</b>	<b>\$ 620,375</b>	<b>\$ 1,115,109</b>
<b>Supplemental non-cash information</b>		
Accounts payable paid through issuance of Common Shares	\$ 24,000	\$ -
Shares issued in lieu of cash bonuses	\$ 135,265	\$ -
Legal expenses paid through relief of related party receivable	\$ -	\$ 75,000
Related Party Debt and accrued interest converted into Common Shares	\$ -	\$ 3,852,771
Interest paid	\$ 751,306	\$ 544,708
Taxes paid	\$ 2,243	\$ 8,840

### Operating activities

During the year ended December 31, 2016 and 2015, cash used in operating activities was \$7,327,845 and \$3,545,783 respectively. Cash expenditures the year ended December 31, 2016 increased primarily due to development activities with our Contracted Manufacturing Organization (“CMO”), patent costs, increase in wages for our CEO and COO who began serving the Company in August 2015.

During the year ended December 31, 2016, cash used in operating activities was partially offset by non-cash of debt discount amortization of \$2,098,665, debt issuance costs of \$300,831, stock option expenses of \$3,460,078 for employee options and \$6,085,950 for consultant option expense. During the year ended

December 31, 2015, cash used in operating activities was partially offset by non-cash increases in accrued interest expense of \$105,669, debt discount amortization of \$623,101, debt issuance costs amortization of \$661,617, stock option expenses of \$3,700,431 for employee options, \$497,003 related to the issuance of warrants issued to consultants and \$2,825,943 shares issued for services.

*Investing activities*

During the year ended December 31, 2016, there were no investing activities. In the year ended December 31, 2015, cash used in investing activities of \$504 resulted from the purchase of equipment.

### *Financing activities*

During the year ended December 31, 2016, cash provided in financing activities of \$6,833,111 resulted from the \$1,883,311 proceeds, net of financing fee, of the February 24, 2016 note, \$1,200,000 October 14, 2016 notes, exercise of \$1,250,000 of warrants and \$2,500,000 in equity financing. Cash provided during the year ended December 31, 2015 resulted from \$2,000,000 in proceeds from a convertible note.

### **Off-Balance Sheet Arrangements**

The Company does not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on the Company's financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

## **BUSINESS**

### **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/DBX®. The NELL-1/DBX® combination product is an osteostimulative recombinant protein that provides target specific control over bone regeneration. The protein, as part of the UCB-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 FDA that NELL-1/DBX® will be classified as a combination product with a device lead.

The Company was 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 an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, which we refer to as the JOBS Act. We would cease to be an emerging growth company upon the earliest of: (i) the last day of the first fiscal year in which our annual gross revenues are \$1.07 billion or more; (ii) the end of any fiscal year in which the market value of our common stock held by non-affiliates exceeded \$700.0 million as of the end of the second quarter of that fiscal year; or (iii) the date on which we have, during the previous three-year period, issued more than \$1.07 billion in non-convertible debt securities. An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies. We have elected to take advantage of these reduced disclosure obligations, and may elect to take advantage of other reduced reporting obligations in the future.

The JOBS Act permits an emerging growth company like us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We are choosing to irrevocably "opt out" of this provision and, as a result, we will comply with new or revised accounting standards as required when they are adopted.

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, or circumvented, or that the rights granted thereunder will provide proprietary protection or competitive advantages to us.

## PRODUCTS

We have developed a stand-alone platform technology through significant laboratory and small and large animal research over more than ten years to generate the current applications across broad fields of use. 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. The Company 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 DBX®, a proprietary demineralized bone matrix from Musculoskeletal Transplant Foundation (“MTF”). The NELL-1/DBX® medical device is a combination product which is an osteostimulative recombinant protein that provides target specific control over bone regeneration. Leveraging the resources of investors and strategic partners, we have successfully surpassed two critical milestones:

- Demonstrating a successful small laboratory scale pilot run for the manufacturing of the recombinant NELL-1 protein in Chinese hamster ovary cells; and
- Validation of protein dosing and efficacy in established large animal sheep models and non-human primate models.

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

The NELL-1/DBX® 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 unique 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. NELL-1 is expected to perform as well as high-priced growth factors in this market.

Hip & Knee Revisions. The use of bone substitutes in reconstruction surgery is generally limited to revision cases where the products are used to account for the significant bone loss that accompanies these cases. The treatment of osteoporotic patients also represents a substantial opportunity for NELL-1’s use in hip and knee reconstruction.

Implant Coating. The use of NELL-1 as a direct coating on hip and knee implants could have a very significant impact on the market. A NELL-1 coating may prolong the life of primary implants and allow for differentiation in a commodity 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.

UCLA's initial research was funded with approximately \$18 million in resources from UCLA TDG and government grants. Since licensing the exclusive worldwide intellectual property rights from UCLA TDG, our continued development has been funded through various strategic investments. Our research and development expenses, which include the fair value of stock options issued to our consultants, for the years ended December 31, 2016 and 2015 were \$11,602,776 and \$3,666,108, respectively. We anticipate that it will require an additional \$22 million to complete protein synthesis, animal studies, and commence first in man studies. An estimated additional \$137 million will be required to achieve product launch.

NELL-1's powerful specific bone and cartilage forming properties are derived from the ability of NELL-1 to only target cells that exhibit an activated "master switch" to develop into bone or cartilage. NELL-1 is a function specific recombinant human protein that has been proven in laboratory bench models to recapitulate normal human growth and development to provide control over bone and cartilage regeneration.

NELL-1 was isolated in 1996, and the first NELL-1 patent on bone regeneration was filed in 1999. Subsequent patents and continuations in part describing NELL-1 manufacturing, delivery, and cartilage regeneration were filed to further strengthen the patent portfolio.

## **RESEARCH & PUBLICATIONS**

Our leading scientists have been published in notable scientific journals and publications in our field. There are more than 80 publications that serve to highlight the work and achievements of the researchers and the Company.

## **PROPOSED INITIAL CLINICAL APPLICATION**

The NELL-1/DBX® Fusion Device will be indicated for spinal fusion procedures in skeletally mature patients with degenerative disc disease ("DDD") at one level from L4-S1. These DDD patients may also have up to Grade I spondylolisthesis at the involved level. The NELL-1/DBX® Fusion Device is to be implanted via an anterior open or an anterior laparoscopic approach in conjunction with a cleared intervertebral body fusion device. Patients receiving the device should have had at least six months of non-operative treatment prior to treatment with the device. A cervical indication is currently under consideration. This indication for use would fill a current clinical gap, created by potentially dangerous inflammatory responses caused by commercially available catalytic bone growth agents, the subject of a Public Health Notification from the FDA on July 1, 2008 about life threatening complications associated with a recombinant human protein in cervical spine fusion. We do not expect our product to see the same adverse events with NELL-1/DBX® as have been observed with other commercially available protein. We have performed a rat femoral onlay model to compare proinflammatory response of rhBMP-2 and NELL-1 within Helistate collagen sponges. While NELL-1 induced normal healing, rhBMP-2 induced significant amounts of swelling and histological evidence of intense inflammatory response.

## **DESCRIPTION OF THE DBX® PUTTY TO BE USED WITH NELL-1**

The DBX® Demineralized Bone Putty provided in the convenience kit with NELL-1/DBX® is a Class III device with a pre-market approval (PMA). The common name is "Bone Void Filler Containing Human Demineralized Bone Matrix." The product is regulated under 21 C.F.R. §888.3045 Resorbable calcium salt bone void filler device, Product Codes MQV, GXP, and MBP. MTF is the manufacturer of the DBX® Putty. This product was cleared by the FDA under 510(k) number K053218 for spine indication in December 2006.



DBX® Putty is a matrix composed of processed human cortical bone. Demineralized bone granules are mixed with sodium hyaluronate to form the DBX® Putty. Every lot of final DBX® Putty product is tested in an athymic mouse model or in an alkaline phosphatase assay, which has been shown to have a positive correlation with the athymic mouse model, to ensure osteostimulation.

Based upon extensive discussions with regulatory experts and a specific communication from the FDA in response to a submission of our plan under the Restated License Agreement between UCLA TDG and the Company we believe the NELL-1/DBX® Fusion Device will be regulated as a Class III medical device and will therefore require submission and approval of a pre-market approval, (“PMA”). The FDA response to the submission of our plan is: “We have determined that the product is a combination product that will be regulated under Device authorities, with CDRH (Center for Devices and Radiological Health) as the lead center.”

## **OUR BUSINESS STRATEGY**

Our business strategy is to develop our target specific platform technology to meet a current established market with improvement in patient outcomes and reduction in costs to the healthcare delivery system. Our focus continues to narrow from the research to the development stage to allow for the approval for use of our target specific protein exhibiting efficacy and safety by matching or exceeding current market approved products. Identifying the best future strategic partners to facilitate the development through pre Investigational Device Exemption (“IDE”), clinical, and ultimate commercialization is critical as we fund the pre-IDE work and continue achieving milestones. We believe that the licensing of the distribution of the NELL-1 product in the fields of use focused upon will generate sufficient funding to provide for the ongoing development of the Platform Technology across other surgical and therapeutic fields.

## **DEVELOPMENT OF THE COMPANY**

The Company was incorporated in 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. and Bone Biologics, Inc. Merger Sub merged with and into Bone Biologics Inc., with Bone Biologics 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 June 9, 2004. In connection with the merger, the 5,000,000 outstanding shares of common stock of the Company prior to the merger were consolidated into 3,853,600 shares of Common Stock and the remaining shares were cancelled. Additionally, all of the issued and outstanding shares of Bone Biologics Inc.’s common stock converted into a combined total of 19,897,587 shares of the Company’s Common Stock (including 2,151,926 shares issuable upon the exercise of outstanding warrants and 5,648,658 shares issuable upon the conversion of debt).

### ***UCLA TDG Exclusive License Agreement***

Effective August 18, 2017, the Company entered into an Amended and Restated Exclusive License Agreement (the “Restated License Agreement”) with the UCLA Technology Development Group on behalf of UC Regents (“UCLA TDG”). The Restated License Agreement amends and restates the Exclusive License Agreement, effective March 15, 2006, between the Company and UCLA TDG, as amended by ten amendments. Under the terms of the Restated License Agreement, the Regents have continued to grant the Company exclusive rights to develop and commercialize NELL-1 (the “Licensed Product”) for spinal fusion applications. The Licensed Product is a recombinant human protein growth factor that is essential for normal bone development.

Following the completion of several key milestones, Bone Biologics has expanded its Field of Use definition beyond spine fusion within the NELL-1 license agreement with UCLA TDG. Consistent with that expansion, Bone Biologics has entered into an exclusive license agreement with UCLA TDG for the worldwide application of the NELL-1 protein for both osteoporosis and trauma through a technology transfer.

We have agreed to pay an annual maintenance fee to UCLA TDG of \$10,000 as well as to pay certain royalties to UCLA TDG under the Restated License Agreement at the rate of 3.0% of net sales of licensed products. We must pay the royalties to UCLA TDG on a quarterly basis. Upon a first commercial sale, we also must pay between \$50,000 and \$250,000, depending on the calendar year which is after the first commercial sale. If we are required to pay any third party any royalties as a result of us making use of UCLA TDG patents, then we may reduce the royalty owed to UCLA TDG by 0.333% for every percentage point paid to a third party. If we grant sublicense rights to a third party to use the UCLA TDG patent, then we will pay to UCLA TDG 10% to 20% of the sublicensing income we receive from such sublicense.

We are obligated to make the following milestone payments to UCLA TDG for each Licensed Product or Licensed Method:

- \$100,000 upon enrollment of the first subject in a Feasibility Study;
- \$250,000 upon enrollment of the first subject in a Pivotal Study;
- \$500,000 upon Pre-Market Approval of a Licensed Product or Licensed Method; and
- \$1,000,000 upon the First Commercial Sale of a Licensed Product or Licensed Method.

We are also obligated to pay UCLA TDG a cash milestone payment within thirty (30) days of a Liquidity Event (including a Change of Control Transaction and a payment election by UCLA TDG exercisable after December 22, 2016, such payment to equal the greater of:

- \$500,000; or
- 2% of all proceeds in connection with a Change of Control Transaction.

We are obligated to diligently proceed with developing and commercializing licensed products under UCLA TDG patents set forth in the Restated License Agreement. UCLA TDG has the right to either terminate the license or reduce the license to a non-exclusive license if we do not meet certain diligence milestone deadlines set forth in the Restated License Agreement.

We must reimburse or pre-pay UCLA TDG for patent prosecution and maintenance costs incurred during the term of the Restated License Agreement. We have the right to bring infringement actions against third party infringers of the Restated License Agreement, UCLA TDG may join voluntarily, at its own expense, or, at our expense, be joined involuntarily to the action. We are required to indemnify UCLA TDG against any third party claims arising out of our exercise of the rights under the Restated License Agreement or any sublicense.

#### ***AFH Holding & Advisory LLC***

Pursuant to a letter agreement dated February 10, 2016, the Company agreed to issue a total of 1,260,255 shares of common stock of the Company to AFH. The Letter Agreement was entered into in connection with the AFH/MTF Agreement under which AFH and its affiliated entities, individuals or assignees (“AFH Group”) were entitled to 10% of the outstanding shares of common stock of the Company (the “Share Adjustment”) after giving effect to an anticipated private placement of between \$8,000,000 and \$10,000,000 (the “PIPE”). In the Letter Agreement, the Company recognized that, at the time the AFH/MTF Agreement was entered into, it was not anticipated that certain events in addition to the PIPE would dilute directly or indirectly the interest of AFH Group as stockholders of the Company, including the Ninth Amendment to the UCLA License Agreement and the issuance of the Company’s Common Shares pursuant to the Professional Services Agreement with each of Dr. Chia Soo, Dr. Ben Wu, and Dr. Eric Ting discussed below. Accordingly, the Company agreed to issue the 1,260,255 shares in connection with the Share Adjustment.

On April 7, 2016, the Company entered into a consulting agreement with AFH pursuant to which the Company engaged AFH for a term of three months to provide certain consulting services to the Company effective April 5, 2016. Under the consulting agreement, AFH received an up-front retainer of \$100,000 and \$33,333.33 per month for three months.

On June 1, 2016, the Company agreed (i) to issue to AFH 20,186 shares of common stock of the Company as an adjustment to the October 28, 2015 invoice and (ii) to issue 23,173 shares of common stock of the Company as an adjustment to the letter agreement dated February 10, 2016. The fair value of the shares issued for services, \$100,930, was recorded as general and administrative expense.

In addition to the shares and warrants issued for services, AFH received cash totaling \$0- and \$325,000 for services during the six months ended June 30, 2017 and 2016, respectively.

Amir Heshmatpour is the controlling party of AFH.

#### ***Musculoskeletal Transplant Foundation (MTF)***

On February 22, 2016, the Company entered into a share purchase agreement with MTF, pursuant to which MTF purchased from the Company an aggregate of 731,707 shares of common stock of the Company at a price per share equal to \$2.05.

On February 24, 2016 the Company entered into an Option Agreement for the Distribution and Supply of Sygnal™ demineralized bone matrix (“Sygnal”) with MTF pursuant to which:

- a. MTF grants to the Company the exclusive right and option (the “Option”) to distribute Sygnal upon the critical terms as described in the Option Agreement (the “Option Rights”). The Company will exercise the Option, if at all, by providing written notice to MTF of its intent to do so. During the term of the Option, MTF will not enter into any agreements with any third parties which include the transfer by MTF of the Option Rights.
- b. Upon the exercising of the Option, the Company will grant to MTF 700,000 shares of common stock in the Company.
- c. Within 30 days of exercising the Option, MTF will provide the Company with a written proposal of a Definitive Agreement that includes, inter alia, the Critical Terms and those other commercially reasonable terms as agreed upon by the parties. The parties will fully negotiate in good faith all of the terms of the Definitive Agreement, and any ancillary agreements thereto consistent with the Critical Terms.
- d. In the event the Company does not exercise the Option within the Term of the Option Agreement, MTF will be free to enter into any other agreement relating to the Option Rights as it deems appropriate without liability to the Company.

Sygnal is a bone void filler contouring allograft bone that has the inorganic mineral removed, leaving behind the organic “collagen” matrix.

On June 24, 2016, the Company exercised this option. As provided in the Option Agreement, the Company issued 700,000 shares of its restricted common stock in connection with the exercise of the Option. Additionally, within 30 days of exercising the Option, MTF will provide the Company with a written proposal of a Definitive Agreement that includes, *inter alia*, certain Critical Terms described in the Agreement and those other commercially reasonable terms as agreed upon by the parties. The parties will fully negotiate in good faith all of the terms of the Definitive Agreement and any ancillary agreements thereto consistent with the Critical Terms. The Company expensed the cost of this license, \$1,435,000, as research and development during the year ended December 31, 2016.

On October 14, 2016, pursuant to a Note Purchase Agreement, the Company issued to MTF a convertible promissory note in the amount of \$600,000 (See Note 6).

On February 10, 2017, pursuant to a Note Purchase Agreement, the Company issued to MTF a convertible promissory note in the amount of \$1,000,000 (See Note 6).

On August 18, 2017, the Company entered into a share purchase agreement with MTF, pursuant to which MTF purchased from the Company an aggregate of 233,333 shares of common stock of the Company at a price per share equal to \$3.00.

Bruce Stroeveer, our Chairman of the Board, is the President and Chief Executive Officer of MTF.

### ***Hankey Capital LLC***

#### ***First Secured Convertible Note and Warrant***

On October 24, 2014, the Company issued a convertible promissory note in the amount of \$5,000,000 to Hankey Capital, LLC (“Hankey Capital”). The Convertible Note matures on December 31, 2019 and bears interest at an annual rate of interest of the “prime rate” plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s Common Stock, at a conversion rate of \$1.58 per share.

The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50% (the “Collateral”). 6,329,114 shares were issued upon closing the lending. The number of shares in the Collateral shall be adjusted on a yearly basis. The shares representing the Collateral contain a restrictive legend. The Company shall seek to register the Collateral shares initially delivered on the date of the Convertible Note pursuant to the Registration Rights Agreement described below. Upon the effectiveness of such Registration Statement, the Company will remove the restrictive legends from the Collateral shares so long as Hankey Capital agrees in any event not to sell any Collateral shares if Hankey Capital is notified that the Registration Statement is no longer effective. Hankey Capital may hold the Collateral in any brokerage account of its choosing, but shall not transfer, sell or otherwise dispose of any Collateral, except during the existence of an Event of Default, as defined in the Convertible Note. The Convertible Note is further secured by collateral assignments of all the Company’s license agreements. The principal amount of the loan is pre-payable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital will return Collateral shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all Collateral shares shall be returned return and cancelled. Hankey Capital will also return Collateral shares under the same terms in case of partial or full conversion of the Convertible Note. The Company paid a commitment fee in the amount of 3.0% of the original principal amount of the loan (\$150,000) to Hankey Capital. On October 24, 2014, the Company also issued a warrant to Hankey Capital for 3,955,697 shares of Common Stock at an exercise price per share of \$1.58. The Warrant was amended as of February 10, 2016 to extend the expiration date to October 24, 2019. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

#### ***Second Secured Convertible Note and Warrant***

On May 4, 2015, the Company issued a convertible promissory note in the amount of \$2,000,000 to Hankey Capital. The Second Convertible Note matures on December 31, 2019 and bears interest at an annual rate of interest of the “prime rate” plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s Common Stock, at a conversion rate of \$1.58 per share. The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50%. The number of shares in the Collateral shall be adjusted on a yearly basis. The Convertible Note is further secured by collateral assignments of all the Company’s license agreements. The principal amount of the loan is pre-payable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital shall return Collateral shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all the collateral shares shall be returned return and cancelled. Hankey Capital shall also return the collateral shares under the same terms in case of partial or full conversion of the Convertible Note. In connection with the Convertible Note, on May 4, 2015 the Company issued 2,531,646 common shares as collateral. The Company paid a commitment fee in the amount of \$60,000 (3% of the original principal amount of the loan) to Hankey Capital. On May 4, 2015, the Company also issued a warrant to Hankey Capital for 1,898,734 shares of Common Stock at an exercise price per share of \$1.58. The Warrant was amended as of February 10, 2016 to extend the expiration date to May 4, 2020. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

### ***Third Convertible Secured Term Note and Warrant***

On February 24, 2016, the Company issued a convertible promissory note in the amount of \$2,000,000 to Hankey Capital. The Third Convertible Note matures on February 23, 2019 (the “Maturity Date”) and bears interest at an annual rate of interest at the “prime rate” (as quoted in the “Money Rates” section of The Wall Street Journal) plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.58 per share. The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50%. The number of Collateral Shares will be adjusted on a yearly basis. The Convertible Note is further secured by all of the Company’s personal property, including collateral assignments of all the Company’s license agreements and the Option Agreement. The principal amount of the loan is prepayable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital will return Collateral Shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all Collateral Shares will be returned and cancelled. Hankey Capital will also return Collateral Shares under the same terms in case of partial or full conversion of the Convertible Note. In connection with the Convertible Note, on February 24, 2016 the Company issued 2,531,646 common shares as collateral, paid a commitment fee in the amount of \$40,000 (2% of the original principal amount of the Loan) and a warrant to Hankey Capital for 1,463,415 shares of Common Stock at an exercise price per share of \$2.05. The Warrant will expire on February 23, 2021. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

In connection with the financing with Hankey Capital, Hankey Capital exercised warrants to purchase an aggregate of 791,139 shares resulting in gross proceeds to the Company of \$1,250,000, and the parties agreed to extend the maturity date of the first two convertible secured notes to December 31, 2019 and fix the conversion rate to \$1.58. The Company also agreed to extend the term of all outstanding warrants to five years from issuance.

### ***Convertible Promissory Notes***

On October 14, 2016, pursuant to a Note Purchase Agreement, the Company issued to each of MTF and Hankey Capital a convertible promissory note in the amount of \$600,000 (each a “Convertible Note”). The Convertible Note matures on December 31, 2017 (the “Maturity Date”) and bears interest at an annual rate of interest of 8.5% per annum until maturity. Prior to the Maturity Date, each of MTF and Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Notes will be required to convert their Convertible Notes into the same securities issued in such financing at the same price per share. In addition, if the Convertible Notes are not paid by the Maturity Date, they will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital’s Convertible Note is secured by all of the Company’s assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

Pursuant to the October 2016 and February 2017 Note Purchase Agreements, the Company may only use the proceeds from the issuance of those convertible notes to focus on prioritizing operations on essential research and development activities. Also pursuant to the October 2016 Note Purchase Agreement, the Company’s management has agreed to defer 20% of earned compensation and the Board of Directors has authorized a change in director compensation to defer 50% of the directors’ cash compensation until at least \$5,000,000 has been received in cumulative funding from non-current stockholders.

On January 23, 2017 the Company, MTF and Hankey Capital, executed an amendment (the “Amendment”) to the Convertible Notes. The Amendment extends the maturity date of each of the Convertible Notes to December 31, 2017 from December 31, 2016. By extending the maturity date, the date that the Convertible Notes automatically convert into shares of the Company’s Common Stock was also extended to December 31, 2017. The Amendment was effective retroactive to December 31, 2016.

On February 10, 2017 pursuant to a Note Purchase Agreement, the Company issued to each of MTF and Hankey Capital a convertible promissory note in the amount of \$1,000,000 (each a “Convertible Note”). The Convertible Note matures on December 31, 2017 (the “Maturity Date”) and bears interest at an annual rate of interest of 8.5% until maturity. Prior to the Maturity Date, each of MTF and Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Notes will be required to convert their Convertible Notes into the same securities issued in such financing at the same price per share. Also, if the Convertible Notes are not paid by the Maturity Date, they will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital’s Convertible Note is secured by all of the Company’s assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

On August 18, 2017 pursuant to a Note Purchase Agreement, the Company issued to Hankey Capital a convertible promissory note in the amount of \$700,000 (“Convertible Note”). The Convertible Note matures on December 31, 2017 (the “Maturity Date”) and bears interest at an annual rate of interest of 8.5% until maturity. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Note will be required to convert their Convertible Note into the same securities issued in such financing at the same price per share. Also, if the Convertible Note is not paid by the Maturity Date, it will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital’s Convertible Note is secured by all of the Company’s assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

### ***Founders***

The Company entered into a Letter Agreement effective October 2, 2015, with each of Dr. Chia Soo, Dr. Eric Kang Ting and Dr. Ben Wu (collectively, the “Founders”). The Founders were three of the original shareholders of the Company. Pursuant to the Letter Agreement, the Founders agrees to deliver to the Company all past work product and past data related to NELL-1 (the “Data”) for use by the Company in its sole discretion, within the applicable licensing rights granted under the UCLA license and in exchange the Company agreed to the future issuance of an aggregate of 1,153,846 shares of the Company’s common stock. The Shares are to be equally distributed between the Founders upon the earlier of (i) the third anniversary of the Agreement and (ii) the occurrence of a Liquidity Event (as defined in the Letter Agreement) and is currently reported as shares to be issued.

### ***Founders Professional Services Agreement***

Effective January 8, 2016, the Company entered into separate Professional Services Agreements with each of the Founders. Pursuant to each of the Agreements, each Founder has agreed to provide certain services to the Company, including providing strategic advice and strategic introductions to the Company’s management team as well as specific services set forth on an Exhibit to each Agreement. The Agreements are substantially identical. In consideration for the services to be rendered under the applicable Agreement, each Founder is granted 10-year stock options (the “Options”) to purchase 1,800,364 shares of the Company’s common stock corresponding to 4% of the Company’s outstanding common stock, on a fully diluted basis, at an exercise price of \$1.59 per share. The shares subject to the Options will vest 25% on each of the first, second and third anniversary of the effective date and 12.5% on each of the fourth and fifth anniversary of the effective date. The options fully vest on a change of control of the Company, if the Company terminates the Agreement without cause or the Founder terminates the Agreement with cause. Additionally, beginning January 1, 2017, the Company will pay each Founder an annual consulting fee of \$200,000 in cash or, at the option of the Company, in shares of its common stock valued as provided in the Agreement.

On June 1, 2016, the Company agreed to issue to each Founder a 10-year stock options to purchase 33,105 shares of the Company's common stock at an exercise price of \$2.05 per share as an adjustment to the Professional Services Agreements with each of the Founders dated January 8, 2016.

On December 13, 2016, the Company provided written notice to each of the Founders that it was terminating the Agreements for cause, indicating that absent cure of the material breach of the Agreements, termination of the Agreements was to be effective on January 12, 2017. Despite lengthy discussions with the Founders, and multiple extensions of the termination date to accommodate such discussions, the Company was unable to resolve the outstanding issues under the Agreements, and the Company provided notice that the Agreements were terminated, effective April 8, 2017. Any shares subject to the stock options issued under the Agreements that were not vested on the date the Agreements terminated shall be forfeited on the date of termination. Our policy is to account for forfeitures when they occur therefore these forfeitures are recorded as a credit to expense. Forfeiture credits related to the termination of the Agreements was \$3,629,041 in research and development expense.

Dr. Soo and Dr. Wu resigned as directors of the Company effective April 13, 2017, and Dr. Ting resigned as a member of the Company's Scientific Advisory Board on April 13, 2017. Each of the Advisors were involved in the founding of the Company. Our licensing agreement with UCLA TDG is independent of the Founders' services and remains unchanged as a result of the Founders resignation.

## **COMPETITION**

The orthobiologic and orthopedic industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on intellectual property. We face substantial competition from many different sources, including large and specialty orthopedic companies, biotechnology companies, academic research institutions and governmental agencies along with public and private research institutions.

Our business is in a very competitive and evolving field, that faces competition from large established orthopedic companies such as (but not limited to) Medtronic, Stryker, Zimmer-Biomet, and DePuy-Synthes that possess considerably more resources than Bone Biologics.

Our commercial opportunity could be reduced if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

The NELL-1 growth factor is mechanistically distinct from BMPs and can minimize complications associated with BMP therapies. The early proof of concept animal studies has shown the efficacy of NELL-1 combined with demineralized bone matrix (DBM) as a novel bone graft material for interbody spine fusion.

## **CUSTOMERS**

The populations of interest include spine surgeons, and patients with a skeletal bone defect or bone-related condition in their spine, for which intervention is undertaken to correct such a defect. Spine surgeons and patients can choose to eliminate the need to perform a second painful surgery to obtain autograft harvest of hip bone for fusion procedures by utilizing various other types of biologics.

Most cases of lower back pain can be linked to a general cause such as muscle strain, injury, overuse, or can be attributed to a specific condition like herniated disc, degenerative disc disease, spondylolisthesis, spinal stenosis, or osteoarthritis.

## INTELLECTUAL PROPERTY

We have an intellectual property portfolio that includes exclusive, worldwide licenses from UCLA TDG which we believe constitute a formidable barrier to entry.

Additional patent applications are currently in preparation. The intellectual property is unique and comprehensively covers NELL-1 manufacture, NELL-1 compositions and NELL-1 use in wide ranging clinical and diagnostic applications. We protect our proprietary technology through all mechanisms including U.S. and foreign patent filings, trade secret protections, and collaboration agreements with domestic and international corporations, universities and research institutions. We are the exclusive licensee for the following fifteen (15) UCLA TDG issued patents:

<u>U.S. Patent No.</u>	<u>Summary</u>	<u>Date Issued</u>
7052856	NELL-1 Enhanced Bone Mineralization	5/20/2006
7544486	NELL-1 Peptide Expression Systems	6/9/2009
7687462	Composition for promoting Cartilage	3/30/2010
7691607	Expression system of NELL-1 peptide	4/6/2010
7776361	NELL-1 Enhanced Bone Mineralization	8/17/2010
7807787	NELL-1 Peptide	10/5/2010
7833968	Pharmaceutical compositions for treating or preventing bone conditions	11/16/2010
7844066	NELL-1 Enhanced Bone Mineralization	2/8/2011
8044026	Composition for promoting cartilage	10/25/2011
8048646	NELL-1 peptide expression systems	11/1/2011
8053412	NELL-1 Peptides	11/8/2011
8207120	NELL-1 Enhanced Bone Mineralization	6/26/2012
9447155	Isoform NELL-1 peptide	9/20/2016
9511115	Pharmaceutical compositions for treating or preventing bone conditions	12/6/2016
9598480	Recombinant NEL-like (NELL) protein production	3/21/2017

## GOVERNMENT REGULATION

The manufacturing and marketing of any product which we may formulate with our technologies as well as our related research and development activities are subject to regulation for safety, efficacy and quality by governmental authorities in the U.S. and other countries. We anticipate that these regulations will apply separately to each product. The Company believes that complying with these regulations will involve a considerable level of time, expense and uncertainty.

In the U.S., drugs are subject to rigorous federal regulation and, to a lesser extent, state regulation. The Federal Food, Drug and Cosmetic Act, as amended, and the regulations promulgated thereunder, and other federal and state statutes and regulations govern, among other things, the testing, manufacture, safety, efficacy, labeling, storage, record keeping, approval, advertising and promotion of our products. Drug development and approval within this regulatory framework is difficult to predict, requires a number of years and involves the expenditure of substantial resources. Moreover, ongoing legislation by U.S. Congress and rule making by the United States Food and Drug Administration ("FDA") presents an ever-changing landscape where we could be required to undertake additional activities before any governmental approval is granted allowing us to market our products. The steps required before a pharmaceutical agent may be marketed in the U.S. include:



- Laboratory and non-clinical tests for safety and small scale manufacturing of the agent;
- The submission to the FDA of an IDE which must become effective before human clinical trials can commence;
- Clinical trials to characterize the efficacy and safety of the product in the intended patient population;
- The submission of a New Drug Application (“NDA”) or PMA to the FDA; and
- FDA approval of the NDA or PMA prior to any commercial sale or shipment of the product.

In addition to obtaining FDA approval for each product, each manufacturing establishment must be registered with, and approved by, the FDA. Moreover, manufacturing establishments are subject to biennial inspections by the FDA and must comply with the FDA’s current Good Manufacturing Practices “cGMP” for products, drugs and devices.

### *Non-clinical Trials*

Non-clinical testing includes laboratory evaluation of chemistry and formulation as well as tissue culture and animal studies to assess the safety and potential efficacy of the product. Non-clinical safety tests must be conducted by laboratories that comply with FDA regulations regarding good laboratory practices. Non-clinical testing is inherently risky and the results can be unpredictable or difficult to interpret. The results of non-clinical testing are submitted to the FDA as part of an IDE and are reviewed by the FDA prior to the commencement of clinical trials. Unless the FDA objects to an IDE, clinical studies may begin 30 days after the IDE is submitted. We have relied and intend to continue to rely on third-party contractors to perform non-clinical trials.

### *Clinical Trials*

Clinical trials involve the administration of the investigational product to healthy volunteers or to patients under the supervision of a qualified investigator. Clinical trials must be conducted in accordance with good clinical practices under protocols that detail the objectives of the study, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Each protocol must be submitted to the FDA prior to its conduct. Further, each clinical study must be conducted under the auspices of an independent institutional review board. The institutional review board will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution. The drug product used in clinical trials must be manufactured according to the FDA’s current Good Manufacturing Practices.

Clinical trials under IDE regulations are typically conducted in two sequential trials. In the Pilot trial, the initial introduction of the product into healthy human subjects, the drug is tested for safety (adverse side effects), absorption, metabolism, bio-distribution, excretion, food and drug interactions, abuse as well as limited measures of pharmacologic effect and proof of principle that involves studies in a limited patient population in order to:

- assess the potential efficacy of the product for specific, targeted indications;
- demonstrate efficacy in a limited patient population;
- identify the range of doses likely to be effective for the indication; and
- identify possible adverse events and safety risks.

When there is evidence that the product may be effective and has an acceptable safety profile in Pilot evaluations, Pivotal trials are undertaken to establish and confirm the clinical efficacy and establish the safety profile of the product within a larger population at geographically dispersed clinical study sites. Pivotal trials frequently involve randomized controlled trials and, whenever possible, studies are conducted in a manner so that neither the patient nor the investigator knows what treatment is being administered. The Company, or the FDA, may suspend clinical trials at any time if it is believed that the individuals participating in such trials are being exposed to unacceptable health risks. We intend to rely upon third-party contractors to advise and assist us in the preparation of our IDEs and the conduct of clinical trials that will be conducted under the IDEs.

### ***Premarket Approval and FDA Approval Process***

The results of the manufacturing process, development work, non-clinical studies and clinical studies are submitted to the FDA in the form of a PMA prior to marketing and selling the product. The testing and approval process is likely to require substantial time and effort. In addition to the results of non-clinical and clinical testing, the PMA applicant must submit detailed information about chemistry, manufacturing and controls that will describe how the product is made and tested through the manufacturing process.

The PMA review process involves FDA investigation into the details of the manufacturing process, as well as the design and analysis of each of the non-clinical and clinical studies. This review includes inspection of the manufacturing facility, the data recording process for the clinical studies, the record keeping at a sample of clinical trial sites and a thorough review of the data collected and analyzed for each non-clinical and clinical study. Through this investigation, the FDA reaches a decision about the risk-benefit profile of a product candidate. If the benefit is worth the risk, the FDA begins negotiating with the company about the content of an acceptable package insert and associated Risk Evaluation and Mitigation Strategies (“REMS”), if required.

The approval process is affected by a number of factors, including the severity of the disease, the availability of alternative treatments and the risks and benefits demonstrated in clinical trials. Consequently, there is a risk that approval may not be granted on a timely basis, if at all. The FDA may deny a PMA if applicable regulatory criteria are not satisfied, require additional testing or information or require post-marketing testing (Phase 4) and surveillance to monitor the safety of a company’s product if it does not believe the PMA contains adequate evidence of the safety and efficacy of the product. Moreover, if regulatory approval of a product is granted, such approval may entail limitations on the indicated uses for which it may be marketed. Finally, product approvals may be withdrawn if compliance with regulatory standards is not maintained or health problems are identified that would alter the risk-benefit analysis for the product. Post-approval studies may be conducted to explore the use of the product for new indications or populations such as pediatrics.

Among the conditions for PMA approval is the requirement that any prospective manufacturer’s quality control and manufacturing procedures conform to the FDA’s Good Manufacturing Practices and the specifications approved in the PMA. In complying with standards set forth in these regulations, manufacturers must continue to expend time, money and effort in the area of product and quality control to ensure full technical compliance. Manufacturing establishments, both foreign and domestic, also are subject to inspections by or under the authority of the FDA and by other federal, state or local agencies. Additionally, in the event of non-compliance, FDA may issue warning letters and/or seek criminal and civil penalties, enjoin manufacture, seize product or revoke approval.

### ***International Approval***

Whether or not FDA approval has been obtained, approval of a product by regulatory authorities in foreign countries must be obtained prior to the commencement of commercial sales of the drug in such countries. The requirements governing the conduct of clinical trials and drug approvals vary widely from country to country, and the time required for approval may be longer or shorter than that required for FDA approval. Although there are some procedures for unified filings for certain European countries, in general, each country at this time has its own procedures and requirements.

### ***Other Regulation***

In addition to regulations enforced by the FDA, we are also subject to U.S. regulation under the Controlled Substances Act, the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act and other present and potential future federal, state, local or similar foreign regulations. Our research and development may involve the controlled use of hazardous materials, chemicals and radioactive compounds. Although we believe that its safety procedures for handling and disposing of such materials comply with the standards prescribed by state and federal regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of any accident, we could be held liable for any damages that result and any such liability could exceed our resources.

## EMPLOYEES

As of the date hereof, we have three (3) full-time employees.

## Available Information

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We are not required to deliver an annual report to our security holders, but will provide one voluntarily if a written request is sent to us at our principal executive office at 2 Burlington Woods Drive, Ste 100, Burlington, MA 01803. Reports filed with the SEC pursuant to the Exchange Act, including our annual and quarterly reports, and other reports we file, can be inspected and copied on official business days during the hours of 10 a.m. to 3 p.m. prevailing Eastern Time at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. Investors may obtain information on the operation of the public reference room by calling the SEC at 1-800-SEC-0330. Investors can request copies of these documents upon payment of a duplicating fee by writing to the SEC. The reports we file with the SEC are also available on the SEC’s website ( <http://www.sec.gov> ).

## SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information with respect to the beneficial ownership of the Company’s Common Stock as of August 22, 2017, by each person or group of affiliated persons known to the Company to beneficially own 5% or more of its Common Stock, each director, each named executive officer, and all of its directors and named executive officers as a group.

<u>Name of Beneficial Owner or Identity of Group</u>	<u>Title of Class</u>	<u>Shares <sup>(1)</sup></u>	<u>Percentage</u>
<b>5% or greater stockholders:</b>			
The Musculoskeletal Transplant Foundation, Inc. 175 May Street Edison, NJ 08837	Common Stock	15,028,511(2)	36.2%
Don R. Hankey 4751 Wilshire Blvd #110 Los Angeles, CA 90010	Common Stock	2,096,753(3)	5.0%
AFH Holding & Advisory, LLC 269 Beverly Drive, Ste. 1600 Beverly Hills, CA 90212	Common Stock	5,400,954(4)	13.3%
Amir Heshmatpour 269 Beverly Drive, Ste. 1600 Beverly Hills, CA 90212	Common Stock	6,800,954(5)	16.7%
Dr. Bessie (Chia) Soo 115 N. Doheny Dr. Beverly Hills, CA 90211	Common Stock	3,560,489(6)	9.0%
Orthofix Holdings Inc. 3451 Plano Parkway Lewisville, TX 75056	Common Stock	2,397,712(7)	6.1%
<b>Executive Officers and Directors:</b>			
Stephen LaNeve 2 Burlington Woods Drive, Ste 100, Burlington, MA 01803	Common Stock	1,746,321(8)	4.3%
Jeffrey Frelick 2 Burlington Woods Drive, Ste 100, Burlington, MA 01803	Common Stock	873,161(9)	2.2%
Deina H. Walsh 2 Burlington Woods Drive, Ste 100, Burlington, MA 01803	Common Stock	395,090(10)	1.0%
Bruce Stroever(11) 175 May Street, Suite 400 Edison, NJ 08837	Common Stock	-	-
John Booth 2 Burlington Woods Drive, Ste 100, Burlington, MA 01803	Common Stock	109,460(12)	0.3%
Jimmy Delshad 2 Burlington Woods Drive, Ste 100, Burlington, MA 01803	Common Stock	129,460(13)	0.3%
<b>Total Officers and Directors as a Group (9 persons)</b>	Common Stock	<b>3,253,492(14)</b>	<b>7.7%</b>

- (1) Based on 39,077,322 issued and outstanding shares. The number of shares issued and outstanding that was used to calculate the percentage ownership of each listed person includes the shares underlying convertible debt, stock options and warrants that are exercisable 60 days from our report date.
- (2) Consists of 12,585,128 shares, 1,600,000 shares underlying debt conversion, 793,383 shares underlying warrants exercisable within 60 days and 50,000 shares underlying stock options exercisable within 60 days.
- (3) Consists of 450,000 shares owned by Don R. Hankey, Trustee of the Don Hankey Trust over which Mr. Hankey has voting and investment control and 1,646,753 shares held by Hankey Capital, LLC over which Mr. Hankey has voting and investment control. This amount does not include the 11,392,407 shares that were issued in connect with the possible conversion of the three (3) convertible notes payable to Hankey Capital, 7,996,203 shares underlying debt conversion and 5,577,340 shares underlying warrants in accordance with provisions limiting the exercise/conversion thereof.
- (4) Includes 1,632,596 shares underlying warrants exercisable within 60 days.
- (5) Consists of (a) 5,405,954 shares beneficially owned by AFH Holding of which Mr. Heshmatpour is the sole member and over which he has sole voting and investment control, (b) 300,000 shares owned by KIG LLC of which Mr. Heshmatpour's spouse is the sole member and over which she has sole voting and investment control (c) 900,000 shares owned by Mr. Heshmatpour's children and (d) 200,000 shares owned by H&H (Hong Kong) Holdings Co. of which Mr. Heshmatpour is the sole member and over which he has sole voting and investment control.
- (6) Includes 119,318 shares underlying warrants exercisable within 60 days and 458,367 shares underlying stock options exercisable within 60 days.
- (7) Includes 458,334 shares underlying warrants exercisable within 60 days.
- (8) Includes 1,746,321 shares underlying stock options exercisable within 60 days.
- (9) Includes 873,161 shares underlying stock options exercisable within 60 days.
- (10) Includes 395,090 shares underlying stock options exercisable within 60 days.
- (11) Mr. Stroeve is the President and Chief Executive Officer of the Musculoskeletal Transplant Foundation, Inc. (MTF) and, as such, advises MTF with respect to voting and investment decisions relating to the shares of the Company owned by MTF but does not have or share voting and investment power over such shares. Mr. Stroeve disclaims beneficial ownership of any shares owned by MTF.

(12) Includes 88,638 shares underlying stock options exercisable within 60 days.

(13) Includes 88,638 shares underlying stock options exercisable within 60 days.

(14) Includes 3,191,848 shares underlying stock options exercisable within 60 days.

### SELLING STOCKHOLDERS

Up to 25,653,773 shares of common stock are being offered by this prospectus, all of which are being registered for sale for the account of the selling stockholders. Of the shares being offered, 12,628,316 shares are presently issued and outstanding and 7,329,254 shares are issuable upon exercise of common stock purchase warrants. 5,696,203 shares have been issued in connection with the possible conversion of certain convertible promissory notes and are deemed to be outstanding.

The table below sets forth certain information regarding the selling stockholders and the shares of our common stock offered by them in this prospectus. The selling stockholders have not had a material relationship with us within the past three years other than as described in the footnotes to the table below or as a result of acquisition of our shares or other securities. None of the following selling stockholders are registered broker-dealers or affiliated with registered broker-dealers.

Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission. The selling stockholders' percentage of ownership of our outstanding shares in the table below is based upon 39,077,322 issued and outstanding shares. The number of shares issued and outstanding that was used to calculate the percentage ownership of each listed person includes the shares underlying convertible debt, stock options and warrants that are exercisable 60 days from our report date.

Selling Stockholder	Ownership Before Offering		Ownership After Offering	
	Number of shares of common stock beneficially owned	Number of shares offered	Number of shares of common stock beneficially owned (13)	Percentage of common stock beneficially owned
AFH Holding and Advisory LLC, Amir F. Heshmatpour	5,400,954(1)	4,884,034(2)	516,920	1.3%
KIG, LLC, Katherine Lynn Heshmatpour	300,000(3)	260,000	40,000	0.1%
Isabella Katherine Heshmatpour	300,000(4)	260,000	40,000	0.1%
Grace Victoria Heshmatpour	300,000(4)	260,000	40,000	0.1%
Angelina Amira Heshmatpour	300,000(4)	260,000	40,000	0.1%
H&H (Hong Kong) Holdings Co., Amir F. Heshmatpour	200,000(5)	160,000	40,000	0.1%
Jamie Summer Worth	94,500	74,500	20,000	0.1%
Richard Loehr	27,000	20,000	7,000	0.0%
Brendan M. Johnston	80,000	60,000	20,000	0.1%
Don R. Hankey, Trustee of the Don Hankey Trust, Don R. Hankey	450,000(6)	360,000	90,000	0.2%
Hankey Capital LLC, Don R. Hankey	1,646,753(7)	15,511,942(8)	3,164,557	7.8%
Hankey Investment Company, LP, Bret Hankey	150,000(9)	120,000	30,000	0.1%
Dr. Bessie (Chia) Soo	3,560,489(10)	2,478,258(11)	1,082,231	2.7%
Dr. Benjamin Wu	1,429,358	770,991(12)	658,367	1.7%
Richards Family Trust, Steve Richards	158,226	158,226	-	-%
Asher Ross	15,822	15,822	-	-%



- (1) Consists of (a) 5,400,954 shares beneficially owned by AFH Holding of which Mr. Heshmatpour is the sole member and over which he has sole voting and investment control.
- (2) These shares were acquired as follows: (a) In September 2014, pursuant to our merger transaction, we issued to AFH 1,080,661 shares and warrants to purchase 525,000 shares; (b) in November 2014, AFH received warrants to purchase 791,139 shares pursuant to an assignment from Hankey Capital; (c) in May 2015, AFH received warrants to purchase 158,229 shares pursuant to an assignment from Hankey Capital; (d) in August 2015, we issued to AFH 867,163 shares as an anti-dilution adjustment in accordance with our September 2014 letter agreement; (e) in October 2015, we issued to AFH warrants to purchase 158,229 shares for consulting services; (f) in February 2016, we issued to AFH 1,260,254 shares as a further anti-dilution adjustment in accordance with our September 2014 letter agreement; (g) in June 2016, we issued to AFH 23,173 shares as a further anti-dilution adjustment in accordance with our September 2014 letter agreement; and (h) in June 2016, we issued to AFH 20,186 shares for consulting services.
- (3) Consists of shares owned by KIG LLC of which Mr. Heshmatpour's spouse is the sole member and over which she has sole voting and investment control.
- (4) Consists of shares owned by Mr. Heshmatpour's children.
- (5) Consists of shares owned by H&H (Hong Kong) Holdings Co. of which Mr. Heshmatpour is the sole member and over which he has sole voting and investment control.
- (6) Consists of shares owned by Don R. Hankey, Trustee of the Don Hankey Trust over which Mr. Hankey has voting and investment control.
- (7) Consists of 1,646,753 shares held by Hankey Capital, LLC over which Mr. Hankey has voting and investment control. This amount does not include (a) 11,392,407 shares that were issued as collateral for the three (3) convertible notes to Hankey Capital and (b) 7,996,203 shares underlying convertible note and 5,577,340 shares underlying warrants which contain provisions limiting the exercise/conversion thereof.
- (8) These shares were acquired as follows: (a) in October 2014, we issued to Hankey Capital 3,164,568 shares in connection with the possible conversion of our promissory note in favor of Hankey Capital and a warrant to purchase 3,006,329 shares issued as part of the October 2014 financing; (b) in May 2015, we issued to Hankey Capital 2,531,646 shares in connection with the possible conversion of our promissory note in favor of Hankey Capital and warrants to purchase 1,107,595 shares issued as part of the May 2015 financing; (c) in February 2016, we issued 791,139 shares to Hankey Capital in connection with the exercise of warrants issued in the October 2014 financing and 2,531,646 shares in connection with the possible conversion of our promissory note in favor of Hankey Capital and warrants to purchase 1,463,415 shares issued as part of the February 2016 financing; and (d) in May 2016, Hankey Capital received 915,614 shares initially issued to AFH in October 2015, pursuant to an assignment from AFH to Hankey Capital.

- (9) Mr. Bret Hankey has sole voting and dispositive power with respect to the shares to be offered.
- (10) Includes 119,318 shares underlying warrants exercisable within 60 days and 458,367 shares underlying stock options exercisable within 60 days.
- (11) These shares were acquired as follows: in September 2014, pursuant to our merger transaction, we issued to Dr. Soo 2,358,940 shares and warrants to purchase 119,318 shares.
- (12) In September 2014, pursuant to our merger transaction, we issued to Dr. Wu 776,991 shares.
- (13) The difference between the number of shares owned before the offering and the shares owned after the offering consists of shares that are included in our registration statement on Form S-1 effective June 2015 and the post-effective amendment filed July 19, 2016.

## MANAGEMENT

The Company's directors are elected annually for a one year term or until their respective successors are duly elected and qualified or until their earlier resignation or removal. The following table sets forth certain information regarding the Company's directors and executive officers as of August 10, 2017:

Name	Age	Position
Stephen R. LaNeve	57	Chief Executive Officer and President and Director
Jeffrey Frelick	51	Chief Operating Officer
Deina H. Walsh	52	Chief Financial Officer
Bruce Stroeve	67	Chairman of the Board of Directors
John Booth	62	Director
Jimmy Delshad	76	Director
Bret Hankey	40	Director

### **Stephen R. LaNeve: Chief Executive Officer and President**

Stephen R. La Neve has served as our Chief Executive Officer since August 17, 2015. He brings thirty years of health care experience, leadership and success. Prior to his current position, Steve held leadership roles in the device and diagnostic segments which include: CEO and president of Etex Corporation; president of Becton Dickinson's Pre-Analytical Systems business; president of Medtronic's \$3.5b Spine and Biologics business; and president of Medtronic's second largest country business unit, Medtronic Japan. He also served as senior vice president and executive vice president at Premier, one of the largest GPOs in the United States and ran the global Injection Systems business unit for Becton Dickinson. Additionally, Mr. LaNeve has held a number of commercial leadership roles at Becton Dickinson, Roche Diagnostics and E Merck Diagnostic Systems in sales, marketing, strategic planning and project management both in the US and outside the US. He serves on the board of directors for SkelRegen, LLC and Rapid Pathogen Screening, Inc. (RPS), and has consulted for private equity companies in the medical device area. Mr. LaNeve holds a B.S. in Health Planning and Administration from the Pennsylvania State University, an M.B.A. from West Chester University, and is a member of the omicron delta epsilon honor society for academic excellence in economics.

### **Jeffrey Frelick: Chief Operating Officer**

Jeffrey Frelick has served as our Chief Operating Officer since August 17, 2015. He was the COO of Life Science Enterprises, where he brings more than 25 years of med-tech experience. He spent the past 15 years on Wall Street as a sell-side analyst following the med-tech industry at investment banks such as Canaccord Genuity, ThinkEquity and Lazard. Prior to becoming an equity research analyst, Mr. Frelick worked at Boston Biomedical Consultants where he provided strategic planning assistance, market research data and due diligence for diagnostics companies. He previously held sales and sales management positions at Becton Dickinson's Primary Care Diagnostic Division after gaining technical experience as a laboratory technologist with Clinical Pathology Facility. Mr. Frelick received a B.S. in Biology from University of Pittsburgh and an M.B.A. from Suffolk University's Sawyer Business School.



**Deina H. Walsh: Chief Financial Officer**

Deina Walsh has served as our Chief Financial Officer since November 2014. She is a certified public accountant and owner/founder of DHW CPA, PLLC a Public Companies Accounting Oversight Board (PCAOB) registered firm since 2014. Prior to forming her firm, Ms. Walsh has 13 years at a public accounting firm where as a partner she was actively responsible for leading firm audit engagements of publicly held entities in accordance with PCAOB standards and compliance with SEC regulations, including internal control requirements under section 404 of the Sarbanes-Oxley Act. Ms. Walsh had a global client base including entities throughout the United States, Canada and China. These entities encompass a diverse range of industries including manufacturing, wholesale, life sciences, pharmaceuticals, and technology. Her experience includes work with start-up companies and well-established operating entities. She has assisted many entities seeking debt and equity capital. Areas of specialty include mergers, acquisitions, reverse mergers, consolidations, complex equity structures, foreign currency translations and revenue recognition complexities. Ms. Walsh has an Associates of Science Degree in Business Administration from Monroe Community College and a Bachelor of Science Degree in Accounting from the State University of New York at Brockport.

**Bruce Stroever: Chairman of the Board of Directors**

Mr. Stroever has forty years of product development and general management experience in the medical device and orthobiologics fields. Mr. Stroever joined MTF in late 1988 as General Manager and is currently the President and Chief Executive Officer of MTF. He has served as MTF's President since his appointment in 1992 and as Chief Executive Officer since 1996. Under Mr. Stroever's leadership, MTF has grown to be the largest tissue bank in the world providing over 500,000 grafts per year. From 1971 to 1988, Mr. Stroever held several positions with Ethicon, Inc., a Johnson & Johnson, Inc. subsidiary. Mr. Stroever currently serves on the advisory board for the New Jersey Organ and Tissue Sharing Network. He was elected to the Board of Governors of the American Association of Tissue Banks for a three year term in 1999 and subsequently in 2012. Mr. Stroever has served as the Chairman of Bone's Board of Directors since 2012. Mr. Stroever received his B.E. in Mechanical/Chemical Engineering from Stevens Institute of Technology in 1972 and a Masters of Science in Bioengineering from Columbia University in 1977. Given Mr. Stroever's forty years of experience in the medical device and orthobiologics fields, as well as, the roles he has held at Bone, the Company believes he is well qualified to serve as the Chairman of the Board of Directors.

**John Booth: Director**

Mr. Booth has been CEO of Spineology Inc. since 2004 and has been a board member since its inception in 1998. Spineology is involved in the development and commercialization of minimally invasive spinal implants and access systems. Mr. Booth held various executive level positions at Phillips Plastics Corporation, most recently serving as CEO from June of 2001 to December 2002. Before serving as CEO of Phillips, he was CEO of Microvena Corporation, a cardiovascular device subsidiary of Phillips, from 1999 to 2001 and CEO of Phillips Origen Group Division from 1998 to 1999. Prior to Phillips, Mr. Booth was President and CEO of INCSTAR Corporation, a publicly held medical technology company involved in in-vitro diagnostics. He has held various positions in both financial and general management in the medical technology industry since 1981. Mr. Booth has also serve on the boards of directors of INCSTAR Corporation from 1994 to 1997, Microvena Corporation from 1998 to 2001, Phillips Plastics Corporation from 2000 to 2002, Imricor Medical Systems Inc. from 2007 to 2014, Spineology Inc. from 1998 to the present and Data Sciences International in January 2017. Mr. Booth received a B.S. degree in accounting from Villanova University and an MBA from Seton Hall University.

**Jimmy Delshad: Director**

Mr. Delshad brings more than ten years of elected public service to the Company. From 2003 through 2011, Mr. Delshad served as Mayor and Councilmember of the City of Beverly Hills, California. In this role, Mr. Delshad was responsible for, among other things: the formulation of city policies and ordinances; the establishment and monitoring of a budget of approximately \$500 million; and the management of more than 1000 city employees. Additionally, since his retirement as Mayor in 2011, Mr. Delshad has served as a Goodwill Ambassador for the City of Beverly Hills. Since 2012, Mr. Delshad has held the position of Chairman of Delshad Capital, which guides companies in technology, security, crowd-funding and marketing. During 2011 through 2012, Mr. Delshad was Vice Chairman at Pacific Capital Group where he evaluated and managed various projects, such as Smart City initiatives, fuel technology and software products. From 1978 through 2002, Mr. Delshad was founder and Chief Executive Officer of American International Business, Inc., a manufacturer of computer storage technologies with offices in Germany, London and Brussels. Mr. Delshad served on the board of directors of Evryx Corp from 2008 through 2010 and Dream Team Gaming from 2007 through 2009. Mr. Delshad has also served on the Boards of Directors of the Iranian American Jewish Federation from 2002 through the present, the World Affair Council from 2011 through 2012, Sheba Medical Center from 2003 through 2008, Maple Counseling Center from 2001 through 2003, Mount Sinai Mortuaries from 2001 through the present and Nessah Synagogue from 2001 through 2004. Mr. Delshad received his B.S. in Computer Science from California State University and completed additional post-graduate coursework at the University of Southern California.

**Bret Hankey: Director**

Mr. Hankey has served in various capacities within the Hankey Group and currently serves as the President of the Hankey Group and is a member of the board of directors on all major companies that comprise the Hankey Group. Headquartered in Los Angeles, California, the Hankey Group is comprised of seven operating companies specializing primarily in the automotive, finance, technology, real estate and insurance industries. Since 2007, Mr. Hankey has also served in various capacities with Westlake Financial Services, a member of the Hankey Group, and is currently the Vice Chairman and Executive Vice President of Westlake Financial. Westlake Financial is the largest privately held automotive finance company in the United States. Mr. Hankey graduated from the University of Southern California in 2000 with a B.S. in Business Administration and Finance.

**Family Relationships**

None

**Board of Directors and Corporate Governance**

Our Board of Directors currently consists of five (5) members, consisting of Bruce Stroeve, John Booth, Jimmy Delshad, Bret Hankey, and Stephen R. LaNeve.

*Board Committees*

Our Board of Directors has appointed an audit committee, governance committee and compensation committee. The Board of Directors met or acted by written consent 14 times during 2016.

*Audit Committee*

The audit committee is responsible for overseeing: (i) our accounting and reporting practices and compliance with legal and regulatory requirements regarding such accounting and reporting practices; (ii) the quality and integrity of our financial statements; (iii) our internal control and compliance programs; (iv) our independent auditors' qualifications and independence and (v) the performance of our independent auditors and our internal audit function. In so doing, the audit committee maintains free and open means of communication between our directors, internal auditors and management. We are not required to have an Audit Committee consisting solely of independent directors or required to have an "audit committee financial expert" as we are neither listed on NASDAQ nor the New York Stock Exchange.

Our audit committee consists of John Booth, as Chairman, and Jimmy Delshad. The Audit committee met four times during 2016.

### *Compensation Committee*

The compensation committee is responsible for reviewing and approving the compensation of our executive officers and directors and our performance plans and other compensation plans. The compensation committee makes recommendations to our Board of Directors in connection with such compensation and performance plans.

Our compensation committee consists of John Booth, as Chairman, and Jimmy Delshad. The compensation committee met two times during 2016.

### *Nominating and Corporate Governance Committee*

The nominating and corporate governance committee is responsible for (i) identifying, screening and reviewing individuals qualified to serve as directors (consistent with criteria approved by our Board of Directors) and recommending to our Board candidates for nomination for election at the annual meeting of shareholders or to fill board vacancies or newly created directorships; (ii) developing and recommending to our Board of Directors and overseeing the implementation of our corporate governance guidelines (if any); (iii) overseeing evaluations of our Board of Directors and (iv) recommending to our Board of Directors candidates for appointment to board committees.

Our nominating and corporate governance committee consists of John Booth and Jimmy Delshad. The nominating and corporate governance committee met two times during 2016.

### *Code of Ethics*

The Company adopted a formal code of ethics within the meaning of Item 406 of Regulation S-K promulgated under the Securities Act, that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and that establishes, among other things, procedures for handling actual or apparent conflicts of interest. Our Code of Ethics is available at our website [www.bonebiologics.com/investor-relations/corporate-governance/](http://www.bonebiologics.com/investor-relations/corporate-governance/).

### *Section 16(a) Beneficial Ownership Reporting Compliance*

Section 16(a) of the Exchange Act requires the Company's directors and executive officers, and persons who own more than ten percent of a registered class of the Company's equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of Common Stock and other equity securities of the Company. Officers, directors and greater than ten percent stockholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) forms they file.

To the Company's knowledge, based solely on a review of the copies of such reports furnished to the Company and written representations that no other reports were required, during the fiscal year ended December 31, 2016, all Section 16(a) filing requirements applicable to its officers, directors and greater than ten percent beneficial owners were complied with; except that each of the following each failed to file one report of one transaction Mr. LaNeve, Mr. Frelick, Dr. Soo and Dr. Wu.

### *Indemnification Agreements*

Our Board has approved a form of indemnification agreement for our directors and executive officers ("Indemnification Agreement"). Following Board approval, we entered into Indemnification Agreements with each of our current directors and executive officers.

The Indemnification Agreement provides for indemnification against expenses, judgments, fines and penalties actually and reasonably incurred by an indemnitee in connection with threatened, pending or completed actions, suits or other proceedings, subject to certain limitations. The Indemnification Agreement also provides for the advancement of expenses in connection with a proceeding prior to a final, non-appealable judgment or other adjudication, provided that the indemnitee provides an undertaking to repay to us any amounts advanced if the indemnitee is ultimately found not to be entitled to indemnification by us. The Indemnification Agreement sets forth procedures for making and responding to a request for indemnification or advancement of expenses, as well as dispute resolution procedures that will apply to any dispute between us and an indemnitee arising under the Indemnification Agreement.

The foregoing description is qualified in its entirety by reference to the form of Indemnification Agreement filed as Exhibit 10.17 to the Current Report on Form 8-K filed on September 25, 2014.

Effective as of September 19, 2014, our Board of Directors also approved the Former D&O Indemnification Agreement to be entered into between us, Don Hankey and Amir Heshmatpour. The Former D&O Indemnification Agreement requires that for a period of four (4) years from and after September 19, 2014, we will indemnify (including advancement of expenses) and hold harmless persons who were officers and directors of the Company (i) by reason of being an officer or director of the Company prior to the Merger, including through all transactions relating to the Merger, or (ii) is related to acts in connection with the Merger taken by the Former D&O Indemnified Persons, provided however, that the foregoing indemnity shall be excess of all any insurance coverage available to the Former D&O Indemnified Parties for any such loss. The accuracy of the Hankey Affidavit and Heshmatpour Affidavit in connection with the Former D&O Indemnification is a condition precedent to the foregoing indemnity (including advancement of expenses). The Company has no insurance coverage that would cover any claim asserted against the Company by any Former D&O Indemnified Person pursuant to this Former D&O Indemnification Agreement.

This description is qualified in its entirety by the Former D&O Indemnification Agreement filed as Exhibit 10.18 to the Current Report on Form 8-K filed on September 25, 2014 and incorporated herein by reference.

#### **Scientific Advisory Board**

**Mr. Gertzman** has served as a member of Bone's Scientific Advisory Board since 2005. He is the former Executive Vice President for Research and Development from MTF since 1996 and is currently a consultant to MTF in patent prosecution. He has been engaged in industrial product development of surgical implants for forty years. From 1964 to 1993, he was employed by Ethicon, Inc., a Johnson & Johnson Company as Director of Product Engineering Johnson & Johnson USA. From 1993 to 1996, he was employed by Xomed Medical Products and served in several positions of responsibility in research and product development, after his appointment as Vice President, Research and Development in 1993. Mr. Gertzman was appointed Vice President, Research and Development for MTF in 1996 and is currently employed in the development of new tissue forms and related processes. He holds over twenty-five (25) U.S. patents, with many more pending, both in the U.S. and internationally. He completed a Bachelor of Science at CCNY in 1960 and a Master's of Science degree in Chemistry from Boston University in 1963.

**Dr. Shun'ichi Kuroda** has served as a member of Bone's Scientific Advisory Board since 2005. He taught as a professor at the Department of Bio-agricultural Sciences of Nagoya University since 2009 and has served as the Chairman of the Department since 2012. Dr. Kuroda has expertise is in recombinant protein engineering and manufacturing.

**Dr. Jeffrey C. Wang, MD** has served as a member of Bone's Scientific Advisory Board since 2005. Dr. Wang has been Chief of the Orthopaedic Spine Surgery Service since 1997, Fellowship Director of the UCLA Orthopaedic Spine Surgery Fellowship, and is Currently Professor of Orthopaedic Surgery and Neurosurgery. He is also the Vice Chair of Clinical Operations for the UCLA Department of Orthopaedic Surgery. He is Co-Director of the UCLA Spine Center. Dr. Wang's research areas include the use of osteoinductive and osteoconductive materials for spinal fusion as well as novel gene therapy and minimally invasive techniques for spinal surgery. He obtained his undergraduate degree from Stanford University and his medical degree from the University of Pittsburgh. He then completed his Orthopaedic Surgery training at UCLA and his Spine Fellowship at Case Western Reserve University.

**Dr. Xinli Zhang** has served as a member of Bone's Scientific Advisory Board since 2005. Since 2009, he has served as an Associate Professor at the UCLA School of Dentistry. Prior to joining UCLA, Dr. Zhang was Associate Professor in the Third Military Medical University in China from 1994 to 2000. Dr. Zhang combines his specialized training as a pathologist with a PhD in molecular biology. Dr. Zhang brings over twenty years of experience in medical and dental research in both China and the U.S. Dr. Zhang is an expert in developmental molecular biology and pathology of various bone and cartilaginous tissue related conditions.

## Executive Compensation

The table below summarizes the compensation earned for services rendered to us in all capacities, for the fiscal years indicated, by its named executive officers:

Name and Principal Position	Year	Salary	Bonus (\$)	Stock Awards (\$) <sup>(5)</sup>	Option Awards (\$) <sup>(2)(3)</sup>	Non-Equity Incentive Plan Compensation (\$)	Deferred Compensation (\$) <sup>(6)</sup>	All Other Compensation (\$)	Total Compensation (\$)
Mike Schuler, Chief Executive Officer <sup>(1)</sup>	2016	\$ -							\$ -
	2015	\$ 112,500							\$ 112,500
Stephen R. LaNeve, Chief Executive Officer, President, Director	2016	\$ 479,167		\$ -	\$ 942,841		\$ 20,833		\$ 1,442,841
	2015	\$ 187,500		\$ 78,750	\$ 3,392,775		-		\$ 3,659,025
Jeffrey Frelick, Chief Operating Officer	2016	\$ 287,500		\$ -	\$ 471,421		\$ 12,500		\$ 771,421
	2015	\$ 112,500		\$ 33,750	\$ 1,696,388		-		\$ 1,842,638
Dr. William Jay Treat, Chief Technology Officer <sup>(4)</sup>	2016	\$ 217,466			\$ 92,340				\$ 309,806
	2015	\$ 300,000			\$ 987,419				\$ 1,287,419
Deina Walsh, Chief Financial Officer	2016	\$ 191,667		\$ -	\$ -		\$ 8,333		\$ 200,000
	2015	\$ 108,333		\$ 22,764	\$ 938,427		-		\$ 1,069,524

- (1) MTF was paid compensation for Mr. Schuler's CEO services per a consulting agreement with the Company. On August 17, 2015, the Company appointed Steven R. LaNeve as our full-time Chief Executive Officer and our agreement with MTF for the services of Mr. Schuler concluded.
- (2) The amounts shown reflect the aggregate grant date fair value computed in accordance with FASB ASC 718. These amounts reflect our accounting for these awards and do not correspond to the actual values that may be realized by the named executive officers and do not represent actual cash compensation paid to the recipient. Pursuant to SEC rules, we disregarded the estimates of forfeitures related to service-based vesting conditions.
- (3) We granted option awards in 2016 in connection with the employment contracts of Mr. LaNeve and Mr. Frelick as executive officers of the Company. Valuation assumptions used to determine grant date fair value as required by FASB ASC 718 are disclosed in Note 8 to our consolidated financial statements for the year ended December 30, 2016. 1/3 of the shares subject to the options vest on each anniversary of the Vesting Commencement Date, subject to the option holder's Continuous Service (as defined in the Plan) on each vesting date.

- (4) Effective February 29, 2016, Mr. Treat signed a separation agreement with the Company.
- (5) The amounts shown reflect the aggregate grant date fair value computed in accordance with FASB ASC 718. Under ASC 718, the fair value of such stock awards is determined as of the date of grant using the closing market price of common stock on the date of grant. These amounts reflect our accounting for these awards and do not correspond to the actual values that may be realized by the named executive officers and do not represent actual cash compensation paid to the recipient. Pursuant to SEC rules, we disregarded the estimates of forfeitures related to service-based vesting conditions.
- (6) Pursuant to the October 2016 Note Purchase Agreement, the Company's management has agreed to defer 20% of earned compensation.

Our 2015 Equity Incentive Plan was approved by majority shareholder consent on December 30, 2016 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 14,000,000 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 will be 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.

Our Board of Directors approved the following compensation for our named executive officers:

**Stephen R. LaNeve, Chief Executive Officer:**

**Base Salary: Mr. LaNeve's base salary is \$500,000.**

**Bonus:** During each calendar year, Mr. LaNeve shall be eligible to earn an annual target bonus of seventy percent (70%) of his base salary as in-effect for the applicable calendar year, subject to the achievement of personal and corporate objectives or milestones to be established by the board of directors, or any compensation committee thereof, (after considering any input or recommendations from Mr. LaNeve) within sixty (60) days following the beginning of each calendar year during Mr. LaNeve's employment. In order to earn the annual bonus under this provision, the applicable objectives must be achieved and Mr. LaNeve must be employed by Company at the time the annual bonus is distributed by Company. The annual bonus, if any, shall be paid on or before March 15th of the calendar year following the year in which it is considered earned. The actual annual bonus paid may be more or less than seventy percent (70%) of Mr. LaNeve's base salary.

**Stock Options:** Mr. LaNeve was granted an option to purchase 6% of the then outstanding shares of the Company's common stock, at an exercise price that equals to the fair market price on the date of the grant. These options will vest annually over three (3) years such that they are vested in full on the third year anniversary of the employment agreement date, provided, that any stock option that is unvested on the date of termination shall be forfeited on such date of termination, subject to certain exceptions.

**Jeffrey Frelick, Chief Operating Officer:**

**Base Salary: Mr. Frelick's base salary is \$300,000.**

**Bonus:** During each calendar year, Mr. Frelick shall be eligible to earn an annual target bonus of fifty percent (50%) of his base salary as in-effect for the applicable calendar year, subject to the achievement of personal and corporate objectives or milestones to be established by the board of directors, or any compensation committee thereof, (after considering any input or recommendations from Mr. Frelick) within sixty (60) days following the beginning of each calendar year during Mr. Frelick's employment. In order to earn the annual bonus under this provision, the applicable objectives must be achieved and Mr. Frelick must be employed by Company at the time the annual bonus is distributed by Company. The annual bonus, if any, shall be paid on or before March 15th of the calendar year following the year in which it is considered earned. The actual annual bonus paid may be more or less than fifty percent (50%) of Mr. Frelick's base salary.

**Stock Options:** Mr. Frelick was granted an option to purchase 3% of the then outstanding shares of the Company's common stock, at an exercise price that equals to the fair market price on the date of the grant. These options will vest annually over three (3) years such that they are vested in full on the third year anniversary of the employment agreement date, provided, that any stock option that is unvested on the date of termination shall be forfeited on such date of termination, subject to certain exceptions.

**Deina H. Walsh, Chief Financial Officer:**

**Base Salary: Ms. Walsh's base salary is \$200,000.**

**Bonus:** During each calendar year beginning in 2016, Ms. Walsh shall be eligible to earn an annual target bonus of thirty-five percent (35%) of her base salary as in-effect for the applicable calendar year, subject to the achievement of personal and corporate objectives or milestones to be established by the board of directors, or any compensation committee thereof, (after considering any input or recommendations from Ms. Walsh) within sixty (60) days following the beginning of each calendar year during Ms. Walsh's employment. In order to earn the annual bonus under this provision, the applicable objectives must be achieved and Ms. Walsh must be employed by Company at the time the annual bonus is distributed by Company. The annual bonus, if any, shall be paid on or before March 15th of the calendar year following the year in which it is considered earned. The actual annual bonus paid may be more or less than thirty-five percent (35%) of Ms. Walsh's base salary.

**Stock Options:** On November 4, 2014, Ms. Walsh was granted an option to purchase 0.75% of the Company's fully diluted shares of common stock. The option will be granted under Company's stock plan and related stock option documents. The Option is intended to be an "incentive stock option" (within the meaning of Section 422 of the Internal Revenue Code of 1986, as amended) to the greatest extent permitted under the code. The option has an exercise price of \$1.00 per share, equal to the price of the shares awarded under the Merger Agreement in connection with the Merger. As a condition of receipt of the option, Ms. Walsh was required to sign Company's standard form of stock option agreement and the option is subject to the terms and conditions of the plan, the option agreement and her employment agreement. The option vests over a three-year period from the effective date subject to Ms. Walsh's continued Service (as defined in the plan), with 33.33% of the shares subject to the option becoming vested and exercisable on the date that is twelve (12) months after the effective date, and 33.34% of the shares subject to the option vesting and becoming exercisable on the date that is twenty four (24) months after the effective date; provided, however, that all unvested shares subject to the option (and any additional equity awards hereafter issued by Company to Ms. Walsh pursuant to the plan) shall fully vest and be exercisable if Ms. Walsh's service ceases as a result of a "qualifying termination" occurring on or within twelve (12) months after a "change in control."

On December 1, 2015, Ms. Walsh is entitled to purchase 465,795 shares of Common Stock of the Company as of the date of the grant on the condition that i) the exercise price will be the current market price on the date of the grant; and ii) 155,265 of the shares underlying the grant shall vest on the first anniversary of the execution of the Letter Agreement, 155,265 of the shares underlying the grant shall vest on the second anniversary of the execution of the Letter Agreement and 155,265 of the shares underlying the grant shall vest on the third anniversary of the Letter Agreement. Any portion of the stock option grant that is unvested on the date of her termination shall be forfeited on such date of termination except: (i) in the case of termination by the Company without cause; and (ii) upon a change in control (as defined in the equity incentive plan) of the Company, which shall result in the immediate accelerated vesting of all options granted but unvested under the letter agreement as of (i) or (ii). such options shall be subject to the terms of the equity incentive plan and stock option agreements which shall be entered into at a later mutually agreed-upon date to prevent or mitigate dilution of her equity interests in the Company, in connection with each financing, she shall be provided an opportunity to invest in the Company such that her interest, at her option, remains un-diluted or partially diluted.

The Company's compensation committee believes these agreements and other incentives granted to these named executive officers in 2015 align our named executive officers' interests with those of our stockholders. Our compensation committee and board of directors continues to evaluate our executive compensation program with a view toward motivating our named executive officers to meet our strategic operational and financial goals in the best interests of our stockholders.

**Potential Payments upon Termination of Change in Control**

None.



## Changes to Potential Payments upon Termination of Change in Control

None.

## Consulting Agreements for Executives

None other than noted above.

## Grants of Plan-Based Awards

Name/Date Issued	Exercise Price	Number of Shares	Expiration date
Stephen R. LaNeve/May 2016	\$ 2.05	538,290	May 26, 2026
Jeffrey Frelick/May 2016	\$ 2.05	269,145	May 26, 2026
Dr. William Jay Treat/March 2016	\$ 2.05	54,000	February 16, 2021
Total options issued to executives for the year ended December 31, 2016		<u>861,435</u>	

## Executives Outstanding Equity Awards at Fiscal Year End

Name	Grant Date	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Equity incentive plan awards: Number of securities underlying unexercised unearned options (#)	Option exercise price (\$)	Option expiration date	Number of shares or units of stock that have not vested (#)	Market value of shares of units of stock that have not vested (\$)	Equity incentive plan awards: Number of unearned shares, units or other rights that have not vested (#)	Equity incentive plan awards: Market or payout value of unearned shares, units or other rights that have not vested (\$)
(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Mike Schuler, CEO		-	-	-	-	-	-	-	-	-
Stephen R. LaNeve, Chief Executive Officer, President, Director	May 27, 2016	179,429	358,861	-	\$ 2.05	May 27, 2026	-	-	-	-
	December 28, 2015	693,730	1,387,461	-	\$ 1.59	December 27, 2025	-	-	-	-
		-	-	-	-	-	-	-	38,414	\$ 78,750
Jeffrey Frelick, Chief Operating Officer	May 27, 2016	89,714	179,431	-	\$ 2.05	May 27, 2026	-	-	-	-
	December 28, 2015	346,865	693,731	-	\$ 1.59	December 27, 2025	-	-	-	-
Dr. William Jay Treat, Chief Technology Officer	March 4, 2016	54,000	-	-	\$ 2.05	February 16, 2021	-	-	-	-
	December 28, 2015	799,414	-	-	\$ 1.59	February 16, 2021	-	-	-	-
		-	-	-	-	-	-	-	16,463	\$ 33,750
Deina Walsh, Chief Financial Officer	December 28, 2015	64,907	-	-	\$ 1.59	December 27, 2025	-	-	-	-
	December 28, 2015	155,265	310,530	-	\$ 1.59	December 27, 2025	-	-	-	-
	December 28, 2015	174,918	-	-	\$ 1.59	December 27, 2025	-	-	-	-
		-	-	-	-	-	-	-	11,104	\$ 22,764

## Director Compensation

The following table shows information regarding the compensation earned during the fiscal year ended December 31, 2016 by the members of our board of directors.

<b>Name</b>	<b>Fees Earned or Paid in Cash <sup>(5)</sup></b>	<b>Option Awards</b>	<b>Share Awards</b>	<b>Total</b>
Bruce Stroever <sup>(1)(4)</sup>	\$ 7,982	\$ -	-	\$ 7,982
Dr. Chia Soo <sup>(4)(6)</sup>	5,700	-	-	5,700
William Coffin <sup>(7)</sup>	31,195	-	-	31,195
John Booth	29,375	-	-	29,375
Jimmy Delshad	21,875	-	-	21,875
Steve Warnecke <sup>(2)</sup>	4,945	-	-	4,945
George A. Oram <sup>(3)</sup>	4,876	-	-	4,876
Dr. Benjamin Wu <sup>(4)(6)</sup>	5,700	-	-	5,700
Total	<u>\$ 111,648</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 111,648</u>

- (1) MTF is paid compensation for Mr. Stroevert's services per a consulting agreement with the Company.
- (2) Mr. Warnecke resigned March 1, 2016.
- (3) Mr. Oram resigned March 11, 2016.
- (4) Effective March 24, 2016, the Board of Directors authorized a change in director compensation whereas each member of the Board who is a non-employee director will receive the compensation for his or her Board service.
- (5) Pursuant to the October 2016 Note Purchase Agreement, the Board of Directors authorized a change in director compensation to defer 50% of the directors' cash compensation until at least \$5,000,000 has been received in cumulative funding from non-current stockholders.
- (6) Dr. Soo and Dr. Wu resigned as directors of the Company effective April 13, 2017.
- (7) Mr. Coffin resigned May 24, 2017.

The Board adopted a Non-Employee Director Compensation Policy (the "Director Compensation Policy") which revised the directors' compensation to the following:

### **Annual Cash Compensation**

Commencing at the beginning of the first calendar quarter following the Effective Date, each Non-Employee Director will receive the cash compensation set forth below for service on the Board. The annual cash compensation amounts will be payable in equal quarterly installments, in arrears following the end of each quarter in which the service occurred, pro-rated for any partial months of service. All annual cash fees are vested upon payment.

1. Annual Board Service Retainer:
  - a. All Non-Employee Directors other than the Board Chair: \$25,000
  - b. Non-Employee Director who is the Board Chair: \$35,000
2. Annual Committee Chair Service Retainer (in addition to Annual Board Service Retainer):
  - a. Chairman of the Audit Committee: \$5,000
  - b. Chairman of the Compensation Committee: \$5,000
  - c. Chairman of the Corporate Governance Committee: \$5,000

Pursuant to the October 2016 Note Purchase Agreement, the Board of Directors has authorized a change in director compensation to defer 50% of the directors' cash compensation until at least \$5,000,000 has been received in cumulative funding from non-current stockholders.

### **Equity Compensation**

Equity awards will be granted under the Company's 2015 Equity Incentive Plan or any successor equity incentive plan (the "Plan"). All stock options granted under this Director Compensation Policy will be Nonstatutory Stock Options (as defined in the Plan), with a term of ten years from the date of grant and an exercise price per share equal to 100% of the Fair Market Value (as defined in the Plan) of the underlying common stock of the Company ("Common Stock") on the date of grant.

#### **(a) Automatic Equity Grants.**

**(i) Initial Grant for New Directors.** Without any further action of the Board, each person who, after the Effective Date, is elected or appointed for the first time to be a Non-Employee Director will automatically, upon the date of his or her initial election or appointment to be a Non-Employee Director, be granted a Nonstatutory Stock Option to purchase 50,000 shares of Common Stock (the "Initial Grant"), regardless of when such person is elected or appointed to the Board. Each Initial Grant will fully vest on the date of the annual meeting of the stockholders of the Company ("Annual Meeting") next following the Initial Grant.

(ii) **Annual Grant.** Without any further action of the Board, at the close of business on the date of each Annual Meeting following the Effective Date, each person who is then a Non-Employee Director will automatically be granted a Nonstatutory Stock Option to purchase a number of shares of Common Stock having an Option Value (calculated on the date of grant) of \$50,000 (the “Annual Grant”). Each Annual Grant will vest in a series of four (4) successive equal quarterly installments over the one-year period measured from the date of grant.

## DESCRIPTION OF CAPITAL STOCK

### Authorized Capital Stock

Our authorized capital stock consists of 100,000,000 shares of Common Stock at a par value of \$0.001 per share and 20,000,000 shares of preferred stock at a par value of \$0.001 per shares (“Preferred Stock”). As of August 22, 2017, 39,077,322 shares of our Common Stock and no shares of our Preferred Stock were issued and outstanding.

### Common Stock

All outstanding shares of Common Stock are of the same class and have equal rights and attributes. The holders of Common Stock are entitled to one vote per share on all matters submitted to a vote of stockholders of the Company. All stockholders are entitled to share equally in dividends, if any, as may be declared from time to time by the Board of Directors out of funds legally available. In the event of liquidation, the holders of Common Stock are entitled to share ratably in all assets remaining after payment of all liabilities. The stockholders do not have cumulative or preemptive rights.

### Preferred Stock

Our Amended and Restated Certificate of Incorporation provides that we are authorized to issue up to 20,000,000 shares of Preferred Stock. Our Board of Directors has the authority, without further action by the stockholders, to issue from time to time the Preferred Stock in one or more series for such consideration and with such relative rights, privileges, preferences and restrictions that the Board of Directors may determine. The preferences, powers, rights and restrictions of different series of Preferred Stock may differ with respect to dividend rates, amounts payable on liquidation, voting rights, conversion rights, redemption provisions, sinking fund provisions and purchase funds and other matters. The issuance of Preferred Stock could adversely affect the voting power or other rights of the holders of Common Stock.

### Registration Rights Agreements

We have entered into various agreements with MTF, AFH, Hankey Capital and our Founders pursuant to which we have granted to each of them certain demand and piggyback registration rights subject to an agreed upon lock up period. The shares being offered by this prospectus are being registered in accordance with such agreements. The table below sets forth certain information relating to the shares of our common stock covered by the various registration rights agreements:

Name of Beneficial Owner or Identity of Group	Title of Class	Shares
The Musculoskeletal Transplant Foundation, Inc. 175 May Street Edison, NJ 08837	Common Stock	15,280,296
Hankey Capital, LLC 4751 Wilshire Blvd #110 Los Angeles, CA 90010	Common Stock	15,028,511
AFH Holding & Advisory, LLC 269 Beverly Drive, Ste. 1600 Beverly Hills, CA 90212	Common Stock	6,800,954
Dr. Bessie (Chia) Soo 115 N. Doheny Dr. Beverly Hills, CA 90211	Common Stock	384,616(1)
Dr. Kang Ting 115 N. Doheny Dr. Beverly Hills, CA 90211	Common Stock	384,615 (1)
Dr. Benjamin Wu 2740 Lorain Road San Marino, CA 91108	Common Stock	384,615 (1)

(1) Issuable on the earlier of September 24, 2018 and the occurrence of certain events described in a letter agreement dated September 24, 2015

## **Anti-Takeover Effects of Provisions of Delaware State Law**

Anti-takeover provisions in our Amended and Restated Certificate of Incorporation and Delaware law could make an acquisition more difficult and could prevent attempts by our stockholders to remove or replace current management.

Anti-takeover provisions of Delaware law and in our Amended and Restated Certificate of Incorporation and our Bylaws may discourage, delay or prevent a change in control of our company, even if a change in control would be beneficial to our stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board of Directors. In particular, under our Amended and Restated Certificate of Incorporation our Board of Directors may issue up to 20,000,000 shares of Preferred Stock with rights and privileges that might be senior to our Common Stock, without the consent of the holders of our Common Stock. Moreover, without any further vote or action on the part of the stockholders, the Board of Directors would have the authority to determine the price, rights, preferences, privileges, and restrictions of the Preferred Stock. This preferred stock, if it is ever issued, may have preference over, and harm the rights of, the holders of Common Stock. Although the issuance of this Preferred stock would provide us with flexibility in connection with possible acquisitions and other corporate purposes, this issuance may make it more difficult for a third party to acquire a majority of our outstanding voting stock. Similarly, our authorized but unissued Common Stock is available for future issuance without stockholder approval.

## **FEDERAL INCOME TAX CONSEQUENCES**

The following discussion summarizes certain U.S. federal income tax consequences to a purchaser of a share of common stock. This discussion is based on the Internal Revenue Code of 1986, as amended, or the Code, the applicable Treasury regulations promulgated or proposed thereunder, administrative pronouncements of the Internal Revenue Service, or IRS, and judicial decisions, in each case as of the date hereof, all of which are subject to change at any time, possibly retroactively. There can be no assurance that the IRS will not take a view contrary to that set forth herein which may be upheld by a court. No ruling from the IRS or opinion of counsel has been or will be sought as to any of the matters discussed below.

This summary is for general information purposes only and does not constitute tax advice. This summary applies only to an initial purchaser who acquires shares of common stock as a capital asset within the meaning of section 1221 of the Code. It does not purport to address all tax consequences that may be relevant to any particular investor or to an investor subject to special tax rules (including, for example, a financial institution, dealer or trader in stocks or securities, insurance company, regulated investment company, personal holding company, S corporation, tax-exempt organization, a person who holds common shares in a hedging transaction or as part of a “straddle”, “conversion transaction” or other risk reduction transaction, a person subject to the alternative minimum tax, an individual subject to the U.S. expatriation tax regime, a “controlled foreign corporation,” or a “passive foreign investment company”). In addition, this summary does not address any aspect of state, local or foreign taxation.

**EACH PROSPECTIVE PURCHASER OF COMMON STOCK IS URGED TO CONSULT THE PURCHASER’S TAX ADVISER CONCERNING THE U.S. FEDERAL INCOME TAX CONSEQUENCES TO THE PURCHASER OF ACQUIRING, OWNING AND DISPOSING OF SHARES OF COMMON STOCK, AS WELL AS THE APPLICATION OF STATE, LOCAL AND FOREIGN INCOME AND OTHER TAX LAWS.** As used herein, the term “U.S. Holder” means a beneficial owner of a share of common stock that for U.S. federal income tax purposes is:

- an individual who is a citizen or individual resident of the United States;
- a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, created or organized in or under the law of the United States or of any political subdivision thereof;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust if (i) a court within the United States is able to exercise primary supervision over the administration of the trust, and one or more United States persons have the authority to control all substantial decisions of the trust, or (ii) the trust was in existence on August 20, 1996 and properly elected to continue to be treated as a United States person.

The term “non-U.S. Holder” means a beneficial owner of a share of common stock that is not a U.S. Holder.

If a partnership holds shares of our common stock, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. A partner of a partnership holding shares of our common stock should consult his, her, or its own tax advisors.

## **U.S. Holders**

### ***Distributions***

A distribution on a share of common stock will be includible in the gross income of a U.S. Holder as ordinary income to the extent the distribution is out of our current or accumulated earnings and profits (as computed for U.S. federal income tax purposes). To the extent distributions with respect to a share of common stock in any taxable year are not paid out of current or accumulated earnings and profits, they will be treated as a non-taxable return (and reduction) of basis in that share of common stock to the extent thereof, and if and to the extent they exceed earnings and profits and basis, they will be treated as gain from the sale of the share of common stock (see “—Disposition of Shares of Common Stock”).

The rate of federal income tax that a non-corporate taxpayer generally pays on dividends, provided certain conditions and requirements are satisfied, such as minimum holding period requirements, is 15% for taxable years beginning before January 1, 2013, after which dividends are taxable as ordinary income. To qualify for the reduced rate, the non-corporate stockholder must satisfy certain holding period and other requirements. Dividends received by a corporation are generally eligible for the dividends received deduction, subject to the limitations under section 1059 of the Code relating to extraordinary dividends.

### ***Disposition of Shares of Common Stock***

Upon a sale or other taxable disposition of a share of common stock, a U.S. Holder generally will recognize capital gain or loss equal to the difference between the amount realized and the U.S. Holder’s adjusted tax basis in the share of common stock. A U.S. Holder’s adjusted tax basis in its common stock generally would equal the amount paid for such common stock. That gain or loss will be long-term capital gain or loss if the holding period for that share of common stock was more than one year on the date of sale or other disposition. The maximum rate of federal income tax applicable to a long-term capital gain of a non-corporate taxpayer in a taxable year beginning before January 1, 2013 is generally 15%. In later taxable years, that 15% reverts to 20%. The deductibility of capital losses is subject to limitations.

Newly enacted legislation requires certain U.S. Holders who are individuals, estates or trusts to pay an additional 3.8% tax on, among other things, dividends and capital gains from the sale or other disposition of common stock for taxable years beginning after December 31, 2012. U.S. Holders should consult their tax advisors regarding the effect, if any, of this legislation on their ownership and disposition of our common stock.

### ***Backup Withholding***

A U.S. Holder may be subject to backup withholding in respect of dividends on common stock and the proceeds from a sale, exchange or redemption of common stock unless the holder (a) is a corporation or other exempt recipient or (b) provides, when required, the U.S. Holder's taxpayer identification number to the payor, certifies that the U.S. Holder is not subject to backup withholding and otherwise complies with the backup withholding rules. Backup withholding is not an additional tax; any amount so withheld is creditable against the U.S. Holder's U.S. federal income tax liability or is refundable, provided the required information is furnished to the IRS.

### ***Non-U.S. Holders Distributions***

A distribution on a share of our common stock made to a non-U.S. Holder out of our current or accumulated earnings and profits generally will constitute a dividend for U.S. tax purposes. Dividends paid to a non-U.S. Holder generally will be subject to withholding of United States federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. A non-U.S. Holder who wishes to claim the benefit of an applicable treaty rate is required to satisfy applicable certification and other requirements. Dividends that are effectively connected with the conduct of a trade or business within the United States and, if certain tax treaties apply, are attributable to a permanent establishment in the United States, are not subject to the withholding tax, but instead are subject to U.S. federal income tax on a net income basis at applicable graduated individual or corporate rates. Certain certification requirements and disclosure requirements must be complied with in order for effectively connected income to be exempt from withholding. Any such effectively connected income received by a foreign corporation may, under certain circumstances, be subject to an additional branch profits tax at a 30% rate (or lower applicable income tax treaty rate).

To the extent distributions exceed our current and accumulated earnings and profits, they will generally constitute a return of capital and will first reduce the non-U.S. Holder's basis in our common stock, but not below zero, and then will be treated as gain from the sale of stock as discussed below under "Disposition of Shares of Common Stock."

### ***Disposition of Shares of Common Stock***

A non-U.S. Holder generally will not be subject to U.S. federal income tax or withholding with respect to any gain recognized on a sale, exchange or other taxable disposition of our common stock unless:

- certain circumstances exist under which the gain is treated as effectively connected with the conduct by the non-U.S. Holder of a trade or business in the United States, and, if certain tax treaties apply, is attributable to a permanent establishment maintained by the non-U.S. Holder in the United States;
- the non-U.S. Holder is an individual and is present in the United States for 183 or more days in the taxable year of the sale, exchange or other taxable disposition, and meets certain other requirements; or
- our common stock constitutes a "United States real property interest" by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes at any time within the shorter of the five-year period preceding the disposition or the non-U.S. Holder's holding period for our common stock.

If the first exception applies, the non-U.S. Holder generally will be subject to U.S. federal income tax with respect to such item on a net basis in the same manner as a U.S. Holder unless otherwise provided in an applicable income tax treaty; a non-U.S. Holder that is a corporation for U.S. federal income tax purposes may also be subject to a branch profits tax with respect to such item at a rate of 30% (or at a reduced rate under an applicable income tax treaty). If the second exception applies, the non-U.S. Holder generally will be subject to U.S. federal income tax at a rate of 30% (or at a reduced rate under an applicable income tax treaty) on the amount by which such non-U.S. Holder's capital gains allocable to U.S. sources exceed capital losses allocable to U.S. sources during the taxable year of disposition of the common shares.

With respect to the third exception, we believe we are not currently and do not anticipate becoming a USRPHC for United States federal income tax purposes. However, because the determination of whether we are a USRPHC depends on the fair market value of our United States real property interests relative to the fair market value of our other trade or business assets and our non-United States real property interests, there can be no assurance that we are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale, exchange or other taxable disposition by a non-U.S. Holder of our common stock will not be subject to tax if such class of stock is “regularly traded,” as defined by applicable Treasury Regulations, on an established securities market, and such non-U.S. Holder owned, actually or constructively, 5% or less of such class of our stock throughout the shorter of the five-year period ending on the date of the sale or exchange or the non-U.S. Holder’s holding period for such stock. If gain on the sale, exchange, or other taxable disposition of our stock were subject to taxation under the third exception above, the non-U.S. Holder would be subject to regular United States federal income tax with respect to such gain in generally the same manner as a United States person.

#### ***Federal Estate Tax***

Our common stock held by an individual non-U.S. Holder at the time of death, or by certain entities (for example, certain trusts) will be included in such holder’s gross estate for United States federal estate tax purposes, unless an applicable estate tax treaty provides otherwise.

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

Generally, we must report to the IRS and to the non-U.S. Holder the amount of dividends paid to a non-U.S. Holder and the amount of tax, if any, withheld with respect to those payments. Copies of the information returns reporting such dividend payments and any withholding may also be made available to the tax authorities in the country in which the non-U.S. Holder resides under the provisions of an applicable treaty. No information reporting or backup withholding will be required regarding the proceeds of the sale of shares of our common stock made within the United States or conducted through certain U.S.-related financial intermediaries, if the payor receives the certification that the holder is not a U.S. person, as defined under the Code, and does not have actual knowledge or reason to know the holder is a U.S. person, as defined under the Code, who is not an exempt recipient, or the holder otherwise establishes an exemption. Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against the holder’s U.S. federal income tax liability provided the required information is timely furnished to the IRS.

#### ***Recently Enacted Legislation Relating to Foreign Accounts***

Under recently enacted legislation, a relevant withholding agent may be required to withhold 30% of any dividends and the proceeds of a sale of our common stock paid after December 31, 2012 (subject to certain delayed effective dates established by the U.S. Treasury or IRS) to (i) a foreign financial institution (as specially defined for this purpose) unless such foreign financial institution agrees to verify, report and disclose its U.S. accountholders and meets certain other specified requirements, or (ii) a non-financial foreign entity that is the beneficial owner of the payment unless such entity certifies that it does not have any substantial U.S. owners or provides the name, address and taxpayer identification number of each substantial U.S. owner and such entity meets certain other specified requirements. Holders of our common stock should consult their tax advisors regarding the effect, if any, of this legislation on their ownership of our common stock.

### **PLAN OF DISTRIBUTION**

The selling stockholders, which as used herein, includes donees, pledgees, transferees or other successors-in-interest selling shares of common stock or interests in shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer.

The selling stockholders may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.



The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- in exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method allowed by law.

Our common stock is currently traded on the OTCQB Marketplace .

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the common stock offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act of 1933, provided that they meet the criteria and conform to the requirements of that rule.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be underwriters within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are underwriters within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify the selling stockholders against liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

We have agreed with the selling stockholders to keep the registration statement of which this prospectus constitutes a part effective until the earlier of (1) such time as all of the shares covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement or (2) the date on which the shares may be sold without restriction pursuant to Rule 144 of the Securities Act

#### **LEGAL MATTERS**

The legality of the securities offered by this prospectus is being passed upon by TroyGould PC, Los Angeles, California.

#### **EXPERTS**

The audited consolidated financial statements of Bone Biologics Corporation included in this prospectus and elsewhere in the registration statement have been so included in reliance upon the report of Anton & Chia, LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing in giving said report.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the common stock. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement, including the exhibits and the consolidated financial statements and notes filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The exhibits to the registration statement should be reviewed for the complete contents of these contracts and documents. A copy of the registration statement, including the exhibits and the financial statements and notes filed as a part of the registration statement, may be inspected without charge at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549, and copies of all or any part of the registration statement may be obtained from the SEC upon the payment of fees prescribed by it. You may call the SEC at 1-800-SEC-0330 for more information on the operation of the public reference facilities. The SEC maintains a website at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding companies that file electronically with it.

As a result of this offering, we will become subject to the information and reporting requirements of the Exchange Act and, in accordance therewith, will file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information will be available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above.

**Bone Biologics Corporation**

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**Financial Statements for the Years Ended December 31, 2016 and 2015**

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**Unaudited Financial Statements for the Three and Six Months Ended June 30, 2017**

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## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors

Bone Biologics, Corp.  
321 Columbus Ave.  
Boston, MA 02116

We have audited the accompanying consolidated balance sheets of Bone Biologics, Corp. (the "Company") as of December 31, 2016 and 2015 and the related consolidated statements of operations, consolidated changes in stockholders' deficit and consolidated cash flows for the years then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company was not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2016 and 2015 and the consolidated results of its operations and its consolidated cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, these conditions raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of asset carrying amounts or the amount and classification of liabilities that might result should the Company be unable to continue as a going concern.

*/s/ Anton & Chia, LLP*  
Newport Beach, California  
March 30, 2017

**Bone Biologics Corporation**  
**Consolidated Balance Sheets**

	<u>December 31, 2016</u>	<u>December 31, 2015</u>
<b>Assets</b>		
<b>Current assets</b>		
Cash	\$ 620,375	\$ 1,115,109
Prepaid expenses	80,523	85,998
Prepaid expenses – Related Party	271,945	339,931
Total current assets	<u>972,843</u>	<u>1,541,038</u>
Property and equipment, net	<u>242</u>	<u>5,804</u>
Total assets	<u>\$ 973,085</u>	<u>\$ 1,546,842</u>
<b>Liabilities and Stockholders' Deficit</b>		
<b>Current liabilities</b>		
Accounts payable and accrued expenses	\$ 260,149	\$ 322,078
Current notes payable	1,200,000	-
Deferred compensation	41,667	-
Shares to be issued	1,823,077	1,823,077
Total current liabilities	<u>3,324,893</u>	<u>2,145,155</u>
Notes payable, net of debt discount of \$2,717,752 and \$1,917,248, respectively	<u>6,282,248</u>	<u>5,082,752</u>
Total liabilities	<u>9,607,141</u>	<u>7,227,907</u>
<b>Commitments and Contingencies</b>		
<b>Stockholders' deficit</b>		
Preferred Stock, \$0.001 par value per share; 20,000,000 shares authorized; none issued or outstanding at December 31, 2016 and 2015	-	-
Common stock, \$0.001 par value per share; 100,000,000 shares authorized; 38,828,607 and 32,211,956 shares issued and outstanding at December 31, 2016 and 2015, respectively	38,829	32,212
Additional paid-in capital	38,271,173	20,201,567
Accumulated deficit	<u>(46,944,058)</u>	<u>(25,914,844)</u>
Total stockholders' deficit	<u>(8,634,056)</u>	<u>(5,681,065)</u>
Total liabilities and stockholders' deficit	<u>\$ 973,085</u>	<u>\$ 1,546,842</u>

*See accompanying notes to consolidated financial statements.*

**Bone Biologics Corporation**  
**Consolidated Statements of Operations**

	Year Ended December 31, 2016	Year Ended December 31, 2015
<b>Revenues</b>	\$ -	\$ -
<b>Cost of revenues</b>	-	-
<b>Gross profit</b>	-	-
<b>Operating expenses</b>		
Research and development	11,602,776	3,666,108
General and administrative	6,246,461	8,329,978
<b>Total operating expenses</b>	17,849,237	11,996,086
<b>Loss from operations</b>	(17,849,237)	(11,996,086)
<b>Other expenses</b>		
Loss on disposal of assets	(4,862)	
Interest expense, net	(3,172,872)	(1,872,001)
<b>Total other expenses</b>	(3,177,734)	(1,872,001)
<b>Loss before provision for income taxes</b>	(21,026,971)	(13,868,087)
<b>Provision for income taxes</b>	2,243	8,840
<b>Net loss</b>	\$ (21,029,214)	\$ (13,876,927)
<b>Weighted average shares outstanding - basic and diluted</b>	37,630,592	28,462,386
<b>Loss per share - basic and diluted</b>	\$ (0.56)	\$ (0.49)

*See accompanying notes to consolidated financial statements.*

**Bone Biologics Corporation**  
**Consolidated Statement of Stockholders' Deficit**

	<i>Common Stock</i>		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount			
Balance at December 31, 2014	24,269,047	\$ 24,269	\$ 8,315,128	\$ (12,037,917)	\$ (3,698,520)
Stock compensation	-	-	3,291,434	-	3,291,434
Warrants issued for services	-	-	860,502	-	860,502
Warrants issued in connection with notes payable	-	-	652,200	-	652,200
Common shares issued for collateral on note payable	2,531,646	2,532	-	-	2,532
Shares issued for services	2,105,637	2,106	3,232,837	-	3,234,943
Claw-back shares issued to AFH Acquisition X, Inc. shareholders	867,163	867	(867)	-	-
Debt converted into common shares	2,438,463	2,438	3,850,333	-	3,852,771
Net Loss	-	-	-	(13,876,927)	(13,876,927)
Balance at December 31, 2015	32,211,956	\$ 32,212	\$ 20,201,567	\$ (25,914,844)	\$ (5,681,065)
Stock compensation	-	-	9,546,028	-	9,546,028
Beneficial conversion feature of notes	-	-	1,978,668	-	1,978,668
Warrants issued in connection with notes payable	-	-	1,103,800	-	1,103,800
Common shares issued for collateral on note payable	2,531,646	2,532	-	-	2,532
Shares issued for services	28,946	29	124,901	-	124,930
Claw-back shares issued to AFH Acquisition X, Inc. shareholders	1,283,428	1,283	(1,283)	-	-
Shares issued in lieu of cash bonuses	61,981	63	135,202	-	135,265
Shares issued for Sygnal license	700,000	700	1,434,300	-	1,435,000
Shares issued for cash	1,219,511	1,219	2,498,781	-	2,500,000
Exercise of warrants	791,139	791	1,249,209	-	1,250,000
Net Loss	-	-	-	(21,029,214)	(21,029,214)
<b>Balance at December 31, 2016</b>	<b>38,828,607</b>	<b>\$ 38,829</b>	<b>\$ 38,271,173</b>	<b>\$ (46,944,058)</b>	<b>\$ (8,634,056)</b>

*See accompanying notes to consolidated financial statements.*



**Bone Biologics Corporation**  
**Consolidated Statements of Cash Flows**

	Year Ended December 31, 2016	Year Ended December 31, 2015
<b>Operating activities</b>		
Net loss	\$ (21,029,214)	\$ (13,876,927)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation	700	4,451
Interest expense	-	105,669
Amortization of prepaid expenses – related party	67,986	-
Debt discount amortization	2,098,665	623,101
Debt issuance costs amortization	300,831	661,617
Stock-based compensation	3,460,078	3,700,431
Options issued to consultants	6,085,950	-
Warrants issued to consultants	-	497,003
Interest expense deducted from loan proceeds	1,889	-
Loss on disposal of assets	4,862	1,870
Shares issued for services	100,930	2,825,943
Shares to be issued for research & development services	-	1,823,077
Shares issued for Sygnal license	1,435,000	-
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	29,475	3,519
Deferred financing costs	-	(185,000)
Other receivables - related party	-	75,000
Accounts payable and accrued expenses	73,336	194,463
Deferred compensation	41,667	-
Net cash (used in) operating activities	<u>(7,327,845)</u>	<u>(3,545,783)</u>
<b>Investing activities</b>		
Purchase of property and equipment	-	(504)
Net cash (used in) investing activities	<u>-</u>	<u>(504)</u>
<b>Financing activities</b>		
Proceeds from the issuance of common stock	2,500,000	-
Proceeds from the exercise of warrants	1,250,000	-
Proceeds from issuance of notes payable	3,083,111	2,000,000
Net cash provided by financing activities	<u>6,833,111</u>	<u>2,000,000</u>
<b>Net (decrease) in cash</b>	<b>(494,734)</b>	<b>(1,546,287)</b>
<b>Cash, beginning of year</b>	<b>1,115,109</b>	<b>2,661,396</b>
<b>Cash, end of year</b>	<b><u>\$ 620,375</u></b>	<b><u>\$ 1,115,109</u></b>
<b>Supplemental non-cash information</b>		
Accounts payable paid through issuance of Common Shares	\$ 24,000	\$ -
Shares issued in lieu of cash bonuses	\$ 135,265	\$ -
Legal expenses paid through relief of related party receivable	\$ -	\$ 75,000
Related Party Debt and accrued interest converted into Common Shares	\$ -	\$ 3,852,771
Interest paid	\$ 751,306	\$ 544,708
Taxes paid	<u>\$ 2,243</u>	<u>\$ 8,840</u>

*See accompanying notes to consolidated financial statements.*

**Bone Biologics Corporation**  
**Notes to Consolidated Financial Statements**

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## **1. The Company**

Bone Biologics Corporation (the “Company”) was 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 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 June 9, 2004. In connection with the merger, the 5,000,000 outstanding shares of common stock of the Company, par value \$0.001 per share (“Common Stock”), prior to the merger were consolidated into 3,853,600 shares of Common Stock and the remaining shares were cancelled.

Additionally, all of the issued and outstanding shares of Bone Biologics Inc.’s \$0.0001 par value common stock converted into a combined 19,897,587 shares of the Company’s Common Stock (including 2,151,926 shares issuable upon the exercise of outstanding warrants and 5,648,658 shares issuable upon the conversion of debt).

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/DBX®. The NELL-1/DBX® combination product is an osteostimulative recombinant protein that provides target specific control over bone regeneration. The protein, as part of the UCB-1 technology platform has been licensed exclusively for worldwide applications to us through a technology transfer from UCLA. UCLA and the Company received guidance from the FDA that NELL-1/DBX® will be classified as a combination product with a device lead.

The Company is a development stage entity. The production and marketing of the Company’s products and its 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 the Company 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 the Company will not encounter problems in clinical trials that will cause the Company or the FDA to delay or suspend clinical trials.

The Company’s success will depend in part on its 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 the Company will not be challenged, invalidated, or circumvented, or that the rights granted thereunder will provide proprietary protection or competitive advantages to the Company.

### ***Going Concern and Liquidity***

The Company has no significant operating history and, since inception to December 31, 2016, has generated a net loss of approximately \$46.9 million. The Company will continue to incur significant expenses for development activities for their lead product NELL-1. Operating expenditures for the next twelve months are estimated at \$3.5 million. The accompanying consolidated financial statements for the year ended December 31, 2016 have been prepared assuming the Company will continue as a going concern. Management intends to raise additional debt and/or equity financing to fund future operations and to provide additional working capital. However, there is no assurance that such financing will be consummated or obtained in sufficient amounts necessary to meet the Company’s needs. If cash resources are insufficient to satisfy the Company’s on-going cash requirements, the Company will be required to scale back or discontinue its product development programs, or obtain funds if available (although there can be no certainties) through strategic alliances that may require the Company to relinquish their rights to its technology, or discontinue its operations entirely.

Pursuant to the October 2016 Note Purchase Agreement (Note 6), the Company may only use the proceeds from the issuance of those convertible notes to focus on prioritizing operations on essential research and development activities. Also pursuant to the October 2016 Note Purchase Agreement, the Company's management has agreed to defer 20% of earned compensation and the Board of Directors has authorized a change in director compensation to defer 50% of the directors' cash compensation until at least \$5,000,000 has been received in cumulative funding from non-current stockholders.

## **2. Summary of Significant Accounting Policies**

The accompanying consolidated financial statements and related notes included activities of the Company and have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP").

### ***Use of Estimates***

The preparation of the accompanying consolidated financial statements in conformity with GAAP requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and reported amounts of expenses during the reporting period. Significant estimates include warrants and income tax valuation allowances. Actual results could differ from those estimates.

### ***Fair Value of Financial Instruments***

The Company's consolidated financial instruments are accounts payable and notes payable. The recorded values of accounts payable approximate their values based on their short-term nature. Notes payable are recorded at their issue value or if warrants are attached at their issue value less the value of the warrant.

The Company defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The fair value hierarchy is based on three levels of inputs that may be used to measure fair value, of which the first two are considered observable and the last is considered unobservable:

Level 1: Quoted prices in active markets for identical assets or liabilities.

Level 2: Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 assumptions: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities including liabilities resulting from embedded derivatives associated with certain warrants to purchase common stock.

### ***Property and Equipment***

Property and equipment are stated at cost. Depreciation is calculated using the straight-line method over the estimated useful lives of the related assets, ranging from three to seven years. Expenditures for additions and improvements are capitalized, while repairs and maintenance costs are expensed as incurred. The cost and related accumulated depreciation of property and equipment sold or otherwise disposed of are removed from the accounts and any gain or loss is recorded in the year of disposal.

### ***Impairment of Long-Lived Assets***

The long-lived assets held and used by the Company are reviewed for impairment no less frequently than annually or whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. In the event that facts and circumstances indicate that the cost of any long-lived assets may be impaired, an evaluation of recoverability is performed. Management has determined that there was no impairment in the value of long-lived assets during the year ended December 31, 2016.

### ***Research and Development Costs***

Research and development costs include, but are not limited to, patents and license expenses, payroll and other personnel expenses, consultants, expenses incurred under agreements with contract research and manufacturing organizations and animal clinical investigative sites and the cost to manufacture clinical trial materials. Costs related to research, design and development of products are charged to research and development expense as incurred.

### ***Patents and Licenses***

In March 2006, the Company entered into an exclusive license agreement (“Exclusive License Agreement”), with UCLA for the worldwide application of the NELL-1 protein through a technology transfer. See Note 5 for commitments related to the Exclusive License Agreement. Patent expenses include costs to acquire the license of NELL-1, which was de minimis, and costs to file patent applications related to NELL-1.

The Company expenses the costs incurred to file patent applications, all costs related to abandoned patent applications and maintenance costs, and these costs are included in research and development expenses. Costs associated with licenses acquired to be able to use products from third parties prior to receipt of regulatory approval to market the related products are also expensed. The Company’s licensed technologies may have alternative future uses in that they are enabling (or platform) technologies that can be the basis for multiple products that would each target a specific indication. Costs of acquisition of licenses are expensed.

### ***Prepaid expenses – related party***

Prepaid expenses – related party represent the fair value of warrants issued to AFH Holding & Advisory, LLC (“AFH”), a shareholder, for services pursuant to certain letter agreement dated May 4, 2014 (Note 5). Prepaid costs will be amortized as the required services are performed. As of December 31, 2016 and 2015 prepaid expenses – related party totaled \$271,945 and \$339,931, respectively.

### ***Concentration of Credit Risk and Other Risks and Uncertainties***

Cash balances are maintained at financial institutions and, at times, balances may exceed federally insured limits. The Company has never experienced any losses related to these balances. Federal insurance coverage is \$250,000 per depositor at each financial institution. A substantial majority of the Company’s cash balances exceed federally insured limits.

### ***Debt Issuance Costs***

Debt issuance costs represent costs incurred in connection with the issuance of the convertible notes payable and private equity financing. Debt issuance costs related to the issuance of debt are being amortized over the term of the financing instrument using the effective interest method, while debt issuance costs from equity financings are netted against the gross proceeds received from the equity financings.

### ***Stock Based Compensation***

ASC 718, *Compensation – Stock Compensation*, prescribes accounting and reporting standards for all share-based payment transactions in which employee services are acquired. Transactions include incurring liabilities, or issuing or offering to issue shares, options, and other equity instruments such as employee stock ownership plans and stock appreciation rights. Share-based payments to employees, including grants of employee stock options, are recognized as compensation expense in the consolidated financial statements based on their fair values. That expense is recognized over the period during which an employee is required to provide services in exchange for the award, known as the requisite service period (usually the vesting period).

The Company accounts for stock-based compensation issued to non-employees and consultants in accordance with the provisions of ASC 505-50, *Equity – based Payments to Non-Employees* . Measurement of share-based payment transactions with non-employees is based on the fair value of whichever is more reliably measurable: (a) the goods or services received; or (b) the equity instruments issued. The fair value of the share-based payment transaction is determined at the earlier of performance commitment date or performance completion date.

### **Income Taxes**

Income taxes are provided for the tax effects of transactions reported in the consolidated financial statements and consist of taxes currently due and deferred taxes resulting from timing differences in recording of transactions for tax purposes and financial reporting purposes.

The deferred tax assets and liabilities represent the future tax return consequences of those differences, which will be either taxable or deductible when the assets and liabilities are received or settled. Valuation allowances are established when necessary to reduce deferred tax assets to amounts expected to be realized.

The accounting provisions related to uncertain income tax positions require the Company to determine whether any tax position in all open years meets a more likely than not threshold of being sustained upon examination by the applicable taxing authority. The Company did not have any changes to its liability for uncertain tax positions as at December 31, 2016 and 2015.

The Company's policy is to recognize interest and/or penalties related to income tax matters in income tax expense. No such amounts are accrued as of December 31, 2016 and 2015.

### **Loss per Common Share**

The Company utilizes FASB ASC Topic No. 260, *Earnings per Share* . Basic loss per share is computed by dividing loss available to common shareholders by the weighted-average number of common shares outstanding. Diluted loss per share is computed similar to basic loss per share except that the denominator is increased to include the number of additional common shares that would have been outstanding if the potential common shares had been issued and if the additional common shares were dilutive. Diluted loss per common share reflects the potential dilution that could occur if convertible debentures, options and warrants were to be exercised or converted or otherwise resulted in the issuance of common stock that then shared in the earnings of the entity.

Since the effects of outstanding options, warrants, and the conversion of convertible debt are anti-dilutive in all periods presented, shares of common stock underlying these instruments have been excluded from the computation of loss per common share.

The following sets forth the number of shares of common stock underlying outstanding options, warrants, and convertible debt as of December 31, 2016 and 2015:

	<b>December 31,</b>	
	<b>2016</b>	<b>2015</b>
Warrants	10,390,820	9,779,464
Stock options	12,656,067	6,294,226
Convertible promissory notes	6,896,203	4,430,380
	<u>29,943,090</u>	<u>20,504,070</u>

### **New Accounting Standards**

The Company has reviewed all recently issued, but not yet adopted, accounting standards in order to determine their effects, if any, on its results of operation, financial position or cash flows. Based on that review, the Company believes that none of these pronouncements will have a significant effect on its consolidated financial statements.

In April 2015, the FASB issued ASU 2015-3, “*Interest - Imputation of Interest (Subtopic 835-30)*,” related to the presentation of debt issuance costs. This standard will require debt issuance costs related to a recognized debt liability to be presented on the balance sheet as a direct deduction from the debt liability rather than as an asset. These costs will continue to be amortized to interest expense using the effective interest method. This pronouncement is effective for fiscal years, and for interim periods within those fiscal years, beginning after December 15, 2015, and retrospective adoption is required. The standard was retrospectively adopted by the Company on January 1, 2016. As a result, \$533,343 of debt issuance costs at December 31, 2015, were reclassified from other assets to long-term debt.

In June 2016, the FASB issued authoritative guidance under ASU 2016-09, *Compensation-Stock Compensation (Topic 718) Improvements to Employee Share-Based Payment Accounting*. ASU 2016-09 provides for simplification of several aspects of the accounting for share-based payment transactions, including income tax consequences, classification of awards as either equity or liabilities and classification on the statement of cash flows. This pronouncement is effective for fiscal years, and for interim periods within those fiscal years, beginning after December 15, 2016. The Company has elected early adoption of this guidance as of January 1, 2016 and the adoption did not have a material effect on our consolidated financial statements.

In August 2016, the FASB issued authoritative guidance under ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*. ASU 2016-15 is intended to reduce diversity in practice in how certain cash receipts and cash payments are presented and classified in the Consolidated Statement of Cash Flows by providing guidance on eight specific cash flow issues. ASU 2016-15 is effective retrospectively on January 1, 2018, with early adoption permitted. We have not yet determined the effect of the ASU on our Consolidated Financial Statements nor have we selected a transition date.

In January 2017, the FASB issued authoritative guidance under ASU 2017-01, *Business Combinations – Clarifying the Definition of a Business*, which clarifies the definition of a business to assist entities with evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. The standard introduces a screen for determining when assets acquired are not a business and clarifies that a business must include, at a minimum, an input and a substantive process that contribute to an output to be considered a business. This standard is effective for fiscal years beginning after December 15, 2017, including interim periods within that reporting period. The Company does not expect this new guidance to have a material impact on its consolidated financial statements.

### 3. Property and Equipment

Property and equipment consist of the following at:

	<u>December 31, 2016</u>	<u>December 31, 2015</u>
Furniture and equipment	\$ 503	\$ 9,786
Less accumulated depreciation	(261)	(3,982)
	<u>\$ 242</u>	<u>\$ 5,804</u>

Depreciation expense for the years ended December 31, 2016 and 2015 was \$700 and \$4,451, respectively. During the year ended December 31, 2016, we recorded a loss on disposal of assets of \$4,862.

### 4. Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses consist of the following:

	<u>December 31, 2016</u>	<u>December 31, 2015</u>
Interest expense	\$ 22,383	\$ -
Accounts payable	226,516	186,814
Accrued bonuses	-	135,264
Deferred Directors’ fees	11,250	-
	<u>\$ 260,149</u>	<u>\$ 322,078</u>

## 5. Commitments and Contingencies

### *Letter Agreement*

In August 2012, Bone Biologics, Inc., along with its then majority owner and debt holder, Musculoskeletal Transplant Foundation (“MTF”), entered into a letter agreement (the “AFH/MTF Agreement”) with AFH to consummate a business combination through a share exchange, reverse merger, or other similar transactions resulting in the Company becoming a public entity (the “Transaction”). In August 2013, the AFH/MTF Agreement was amended and restated, and on May 7, 2014, the AFH/MTF Agreement was again amended and restated. Among other things, the Amended and Restated letter agreement dated May 7, 2014 (the “Amended AFH/MTF Agreement”) provides that AFH will use its best efforts to assist the Company in procuring an investment bank to facilitate a financing of between \$8 - \$10 million (“PIPE Offering”).

Pursuant to the AFH/MTF Agreement, among other things, the Company agreed that in consideration of the advisory work provided and to be provided to the Company by AFH both before and following the reverse merger of the Company, AFH Advisory and its affiliated entities, individuals or assignees (collectively the “AFH Group”) will be entitled to 10% of the issued and outstanding shares of common stock of the Company after giving effect to the PIPE Offering.

### *UCLA Exclusive License Agreement*

On March 15, 2006, the Company entered into an exclusive license agreement (the “Initial Agreement”) with the Regents of the University of California Los Angeles (“UCLA”). The Initial Agreement has been amended through ten sets of amendments (as so amended, the “The UCLA License Agreement”).

The UCLA License Agreement provides us with an exclusive license to several of UCLA patents covering, among other things, enhanced NELL-1 bone mineralization. The grant of the UCLA License Agreement is subject to any license obligations to the U.S. government, and the term of the license lasts until the last-to-expire UCLA patent licensed under the UCLA License Agreement expires. Under the UCLA License Agreement, we are permitted to make, have made, use, sell, offer for sale and import any products covered by the UCLA License Agreement patents in a certain Field of Use which is currently defined as special function by local administration and expressly excludes osteoporosis and cartilage indications or systemic administration in all indications. Pursuant to a Tenth Amendment, we have been granted the exclusive right to negotiate an expansion of the Field of Use to include treatment of osteoporosis (the “Option”). The term of the Option is for one year commencing June 1, 2016. We may exercise the option by providing notice after completion of certain milestones. Upon exercise of the Option, we and UCLA will negotiate in good faith the terms of an agreement. After December 22, 2016, we may notify UCLA of our interest in requesting an expansion of the Field of Use to include additional available indications, including cartilage indications or systemic administration in the Field of Use. The parties will engage in good faith discussions of such requests.

We have agreed to pay an annual maintenance fee to UCLA of \$10,000 as well as to pay certain royalties to UCLA under the UCLA License Agreement at the rate of 3.0% of net sales of licensed products. We must pay the royalties to UCLA on a quarterly basis. Upon a first commercial sale, we also must pay between \$50,000 and \$250,000, depending on the calendar year that is after the first commercial sale. If we are required to pay any third party any royalties as a result of us making use of UCLA patents, then we may reduce the royalty owed to UCLA by 0.333% for every percentage point paid to a third party. If we grant sublicense rights to a third party to use the UCLA patent, then we will pay to UCLA 10% to 20% of the sublicensing income we receive from such sublicense.

We are obligated to make the following milestone payments to UCLA for each Licensed Product or Licensed Method:

- \$100,000 upon enrollment of the first subject in a Feasibility Study;
- \$250,000 upon enrollment of the first subject in a Pivotal Study;
- \$500,000 upon Pre-Market Approval of a Licensed Product or Licensed Method; and
- \$1,000,000 upon the First Commercial Sale of a Licensed Product or Licensed Method.

We are also obligated to pay UCLA a cash milestone payment within thirty (30) days of a Liquidity Event (including a Change of Control Transaction and a payment election by UCLA exercisable after December 22, 2016, such payment to equal the greater of:

- \$500,000; or
- 2% of all proceeds in connection with a Change of Control Transaction.

We are obligated to diligently proceed with developing and commercializing licensed products under UCLA patents set forth in the UCLA License Agreement. UCLA has the right to either terminate the license or reduce the license to a non-exclusive license if we do not meet certain diligence milestone deadlines set forth in the UCLA License Agreement.

We must reimburse or pre-pay UCLA for patent prosecution and maintenance costs incurred during the term of the UCLA License Agreement. We have the right to bring infringement actions against third party infringers of the UCLA License Agreement, UCLA may join voluntarily, at its own expense, or, at our expense, be joined involuntarily to the action. We are required to indemnify UCLA against any third party claims arising out of our exercise of the rights under the UCLA License Agreement or any sublicense.

### ***Contingencies***

The Company is subject to claims and assessments from time to time in the ordinary course of business. The Company's management does not believe that any such matters, individually or in the aggregate, will have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

### ***Indemnification***

In the normal course of business, the Company enters into contracts and agreements that contain a variety of representations and warranties and provide for general indemnifications. The Company's exposure under these agreements is unknown because it involves claims that may be made against the Company in the future, but have not yet been made. To date, the Company has not paid any claims or been required to defend any action related to its indemnification obligations. However, the Company may record charges in the future as a result of these indemnification obligations.

In accordance with its amended and restated certificate of incorporation and amended and restated bylaws, the Company has indemnification obligations to its officers and directors for certain events or occurrences, subject to certain limits, while they are serving at the Company's request in such capacity. There have been no claims to date and the Company has a director and officer insurance policy that enables it to recover a portion of any amounts paid for future potential claims.

## **6. Notes Payable**

### ***Convertible Notes Payable***

The convertible promissory notes are considered hybrid instruments, which consist of a debt host instrument together with a conversion feature, thus giving the holder of a convertible note an option to convert into an equity instrument providing the holder a residual interest in the Company. The holder of a convertible promissory note also has the option to present its convertible promissory note to the Company and demand payment under the terms of the note after the maturity date or upon the occurrence of certain events such as the failure of the Company to make a payment on the note when due, bankruptcy or certain other liquidation events. The Company concluded that the convertible promissory notes would be accounted for as a typical debt instrument with related interest expense recorded in the Company's statements of operations. The Company's Third Convertible Secured Term Note and October 2016 Convertible Promissory Notes contain a conversion feature is determined to be "beneficial" and the fair value of the conversion feature is recorded as financing costs Company's statements of operations.



### ***First Secured Convertible Note and Warrant***

On October 24, 2014, the Company issued a convertible promissory note in the amount of \$5,000,000 to Hankey Capital, LLC (“Hankey Capital”). The Convertible Note matures on December 31, 2019 and bears interest at an annual rate of interest of the “prime rate” plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s Common Stock, at a conversion rate of \$1.58 per share.

The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50% (the “Collateral”). 6,329,114 shares were issued upon closing the lending. The number of shares in the Collateral shall be adjusted on a yearly basis. The shares representing the Collateral contain a restrictive legend. The Company shall seek to register the Collateral shares initially delivered on the date of the Convertible Note pursuant to the Registration Rights Agreement described below. Upon the effectiveness of such Registration Statement, the Company will remove the restrictive legends from the Collateral shares so long as Hankey Capital agrees in any event not to sell any Collateral shares if Hankey Capital is notified that the Registration Statement is no longer effective. Hankey Capital may hold the Collateral in any brokerage account of its choosing, but shall not transfer, sell or otherwise dispose of any Collateral, except during the existence of an Event of Default, as defined in the Convertible Note. The Convertible Note is further secured by collateral assignments of all the Company’s license agreements. The principal amount of the loan is pre-payable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital will return Collateral shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all Collateral shares shall be returned return and cancelled. Hankey Capital will also return Collateral shares under the same terms in case of partial or full conversion of the Convertible Note. The Company paid a commitment fee in the amount of 3.0% of the original principal amount of the loan (\$150,000) to Hankey Capital. On October 24, 2014, the Company also issued a warrant to Hankey Capital for 3,955,697 shares of Common Stock at an exercise price per share of \$1.58. The Warrant was amended as of February 10, 2016 to extend the expiration date to October 24, 2019. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

### ***Second Secured Convertible Note and Warrant***

On May 4, 2015, the Company issued a convertible promissory note in the amount of \$2,000,000 to Hankey Capital. The Second Convertible Note matures on December 31, 2019 and bears interest at an annual rate of interest of the “prime rate” plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s Common Stock, at a conversion rate of \$1.58 per share. The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50%. The number of shares in the Collateral shall be adjusted on a yearly basis. The Convertible Note is further secured by collateral assignments of all the Company’s license agreements. The principal amount of the loan is pre-payable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital shall return Collateral shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all the collateral shares shall be returned return and cancelled. Hankey Capital shall also return the collateral shares under the same terms in case of partial or full conversion of the Convertible Note. In connection with the Convertible Note, on May 4, 2015 the Company issued 2,531,646 common shares as collateral. The Company paid a commitment fee in the amount of \$60,000 (3% of the original principal amount of the loan) to Hankey Capital. On May 4, 2015, the Company also issued a warrant to Hankey Capital for 1,898,734 shares of Common Stock at an exercise price per share of \$1.58. The Warrant was amended as of February 10, 2016 to extend the expiration date to May 4, 2020. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

### ***Third Convertible Secured Term Note and Warrant***

On February 24, 2016, the Company issued a convertible promissory note in the amount of \$2,000,000 to Hankey Capital. The Third Convertible Note matures on February 23, 2019 (the “Maturity Date”) and bears interest at an annual rate of interest at the “prime rate” (as quoted in the “Money Rates” section of The Wall Street Journal) plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.58 per share. The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50%. The number of Collateral Shares will be adjusted on a yearly basis. The Convertible Note is further secured by all of the Company’s personal property, including collateral assignments of all the Company’s license agreements and the Option Agreement. The principal amount of the loan is prepayable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital will return Collateral Shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all Collateral Shares will be returned and cancelled. Hankey Capital will also return Collateral Shares under the same terms in case of partial or full conversion of the Convertible Note. In connection with the Convertible Note, on February 24, 2016 the Company issued 2,531,646 common shares as collateral, paid a commitment fee in the amount of \$40,000 (2% of the original principal amount of the Loan) and a warrant to Hankey Capital for 1,463,415 shares of Common Stock at an exercise price per share of \$2.05. The Warrant will expire on February 23, 2021. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

In connection with the financing with Hankey Capital, Hankey Capital exercised warrants to purchase an aggregate of 791,139 shares resulting in gross proceeds to the Company of \$1,250,000, and the parties agreed to extend the maturity date of the first two convertible secured notes to December 31, 2019 and fix the conversion rate to \$1.58. The Company also agreed to extend the term of all outstanding warrants to five years from issuance.

### ***Convertible Promissory Notes***

On October 14, 2016, pursuant to a Note Purchase Agreement, the Company issued to each of MTF and Hankey Capital a convertible promissory note in the amount of \$600,000 (each a “Convertible Note”). The Convertible Note matures on December 31, 2017 (the “Maturity Date”) and bears interest at an annual rate of interest of 8.5% per annum until maturity. Prior to the Maturity Date, each of MTF and Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Notes will be required to convert their Convertible Notes into the same securities issued in such financing at the same price per share. In addition, if the Convertible Notes are not paid by the Maturity Date, they will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital’s Convertible Note is secured by all of the Company’s assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

Pursuant to the October 2016 Note Purchase Agreement, the Company may only use the proceeds from the issuance of those convertible notes to focus on prioritizing operations on essential research and development activities. Also pursuant to the October 2016 Note Purchase Agreement, the Company’s management has agreed to defer 20% of earned compensation and the Board of Directors has authorized a change in director compensation to defer 50% of the directors’ cash compensation until at least \$5,000,000 has been received in cumulative funding from non-current stockholders.

On January 23, 2017 the Company, MTF and Hankey Capital, executed an amendment (the “Amendment”) to the Convertible Notes. The Amendment extends the maturity date of each of the Convertible Notes to December 31, 2017 from December 31, 2016. By extending the maturity date, the date that the Convertible Notes automatically convert into shares of the Company’s Common Stock is also extended to December 31, 2017. The Amendment is effective retroactive to December 31, 2016.

The total debt discount costs related to our outstanding debt for the years ended December 31, 2016 and 2015, was \$2,098,665 and \$623,101, respectively was amortized to interest expense. The unamortized debt discount at December 31, 2016 was \$2,367,708. The cost is expected to be recognized over a period of 2.81 years. The unamortized debt discount at December 31, 2015 was \$1,383,905.

The total debt issuance costs related to our outstanding debt for the years ended December 31, 2016 and 2015, was \$300,831 and \$661,617, respectively was amortized to interest expense. The unamortized debt issuance costs at December 31, 2016 was \$350,044. The cost is expected to be recognized over a period of 2.81 years. The unamortized debt issuance costs at December 31, 2015 was \$533,343.

Note Type	Issue Date	Maturity Date	Interest Rate	December 31, 2016	December 31, 2015 (as adjusted)
<i>First Secured Convertible Note</i>	10/24/14	12/31/19	8.5%	5,000,000	5,000,000
<i>Second Secured Convertible Note</i>	5/4/15	12/31/19	8.5%	2,000,000	2,000,000
<i>Third Secured Convertible Note</i>	2/24/16	2/23/19	8.5%	2,000,000	-
<i>Convertible Promissory Notes</i>	10/14/16	12/31/17	8.5%	1,200,000	-
				10,200,000	7,000,000
Less: Current notes payable				1,200,000	-
Less: Debt discount				2,367,708	1,383,905
Less: Debt issuance costs				350,044	533,343
Net Notes payable				\$ 6,282,248	\$ 5,082,752

## 7. Stockholders' Equity

### *Preferred Stock*

The Company's amended and restated certificate of incorporation authorizes the Company to issue a total of 20,000,000 shares of preferred stock. No shares have been issued.

### *Common Stock*

The Company's amended and restated certificate of incorporation authorizes the Company to issue a total of 100,000,000 shares of common stock. As of December 31, 2016 and 2015, the Company had an aggregate of 38,828,607 shares and 32,211,956 shares of common stock outstanding, respectively.

In connection with the Secured Convertible Notes to Hankey Capital, the Company issued 11,392,406 common shares as collateral. (See Note 6)

Each share of common stock has the right to one vote. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when declared by the Board of Directors, subject to the prior rights of holders of all classes of stock outstanding having priority rights as to dividends. No dividends have been declared by the Board.

### *Common Stock Warrants*

As of December 31, 2016, the Company had outstanding unexercised Common Stock Warrants as follows:

Date Issued	Exercise Price	Number of Shares	Expiration date
2009	\$ 0.44	118,383	March 16, 2019
2010	\$ 0.44	254,997	February 4, 2020
April 2013	\$ 1.00	50,000	April 28, 2020
September 2013	\$ 1.00	50,000	September 4, 2020
September 2013	\$ 1.00	25,000	September 20, 2020
November 2013	\$ 1.00	75,000	November 14, 2020
July 2014	\$ 1.50	166,667	May 30, 2018
July 2014	\$ 1.50	166,667	September 30, 2018
July 2014	\$ 1.00	500,000	September 30, 2018
July 2014	\$ 1.00	46,667	July 2, 2018
July 2014	\$ 0.00	12,625	July 10, 2018
September 2014	\$ 1.62	625,000	August 31, 2021
September 2014	\$ 1.00	699,671	September 18, 2021
September 2014	\$ 1.00	89,588	September 29, 2021
October 2014	\$ 1.00	126,582	October 23, 2017
October 2014	\$ 1.58	3,164,558	October 23, 2019
February 2015	\$ 1.58	699,037	February 14, 2018
May 2015	\$ 1.58	1,898,734	May 4, 2020
October 2015	\$ 1.58	158,229	October 27, 2018
February 2016	\$ 2.05	1,463,415	February 23, 2021
Total warrants at December 31, 2016		<u>10,390,820</u>	3.20 years

An aggregate of 791,139 common stock warrants were exercised and 60,920 common stock warrants expired during the year ended December 31, 2016. No common stock warrants were exercised or expired during the year ended December 31, 2015.

## 8. Stock-based Compensation

### *2015 Equity Incentive Plan*

The Company has 14,000,000 shares of Common Stock authorized and reserved for issuance under our 2015 Equity Incentive Plan for option awards. The Board may increase this reserve 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 would 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.

Our compensation committee administers the 2015 Equity Incentive Plan. 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.

During the years ended December 31, 2016 and 2015, the Company had stock-based compensation expenses of \$3,460,078 and \$3,700,431, respectively, related to issuances to the Company's employees and directors, included in our reported net loss. Stock-based compensation for the years ended December 31, 2016 and 2015 related to the issuance of stock options was \$3,460,078 and \$3,291,434, respectively. Stock-based compensation for the years ended December 31, 2016 and 2015 related to the issuance of shares was \$-0- and \$408,997, respectively. During the years ended December 31, 2016 and 2015, the Company had stock-based compensation expenses of \$6,085,950 and \$-0-, respectively, related to issuances to consultants.

A summary of stock option activity for the year ended December 31, 2016, is presented below:

<b>Subject to Exercise</b>	Number of Shares Remaining Options	Weighted Average Exercise Price	Weighted Average Life (Years)	Aggregate Value
<b>Outstanding as of January 1, 2015</b>	757,977	\$ 1.59	10.00	-
<b>Granted – 2015</b>	5,536,249	1.59	10.00	-
<b>Forfeited – 2015</b>	-	-	-	-
<b>Exercised – 2015</b>	-	-	-	-
<b>Outstanding as of January 1, 2016</b>	6,294,226	\$ 1.59	10.00	-
<b>Granted – 2016</b>	6,361,841	1.66	9.95	-
<b>Forfeited – 2016</b>	-	-	-	-
<b>Exercised – 2016</b>	-	-	-	-
<b>Outstanding as of December 31, 2016</b>	<u>12,656,067</u>	<u>\$ 1.62</u>	<u>8.71</u>	<u>-</u>

Date Issued	Exercise Price	Number of Shares	Expiration date
September 2014	\$ 1.59	583,059	December 27, 2025
November 2014	\$ 1.59	174,918	December 27, 2025
August 2015	\$ 1.59	3,121,787	December 27, 2025
September 2015	\$ 1.59	300,000	December 27, 2025
November 2015	\$ 1.59	1,224,640	December 27, 2025
December 2015	\$ 1.59	889,822	December 27, 2025
January 2016	\$ 1.59	5,401,092	January 9, 2026
March 2016	\$ 2.05	54,000	February 24, 2021
May 2016	\$ 2.05	807,434	May 26, 2026
June 2016	\$ 2.05	<u>99,315</u>	May 31, 2026
<b>Total options at December 31, 2016</b>		<u><u>12,656,067</u></u>	

The aggregate intrinsic value in the table above represents the total pre-tax intrinsic value ( *i.e.* , the difference between our closing stock price on the respective date and the exercise price, times the number of shares) that would have been received by the option holders had all option holders exercised their options. There have not been any options exercised during either the years ended December 31, 2016 and 2015.

There were 6,361,841 and 5,536,249 options issued during the years ended December 31, 2016 and 2015, respectively. Vesting of options differs based on the terms of each option. The Company has valued the options at their date of grant utilizing the Black-Scholes option pricing model. As of the issuance of these consolidated financial statements, there was not an active public market for the Company's shares. Accordingly, the fair value of the underlying options was determined based on the historical volatility data of similar companies, considering the industry, products and market capitalization of such other entities. The risk-free interest rate used in the calculations is based on the implied yield available on U.S. Treasury issues with an equivalent term approximating the expected life of the options as calculated using the simplified method. The expected life of the options used was based on the contractual life of the option granted. Stock-based compensation is a non-cash expense because we settle these obligations by issuing shares of our common stock from our authorized shares instead of settling such obligations with cash payments.

There were 322,860 shares issued during the year ended December 31, 2015 per our director's compensation agreement.

The Company utilized the Black-Scholes option pricing model. The assumptions used for the year ended December 31, 2016 are as follows:

	December 31, 2016
Risk free interest rate	1.38% - 1.44%
Expected life (in years)	5.6-10.0
Expected Volatility	121.17%-123.88%
Expected dividend yield	0%

A summary of the changes in the Company's non-vested options during the years ended December 31, 2016 and 2015, is as follows:

	Number of Non-vested Options	Weighted Average Fair Value at Grant Date	Intrinsic Value
Non-vested at January 1, 2015	501,469	\$ 0.73	-
Granted in 2015	5,536,249	\$ 1.29	-
Vested in year ended December 31, 2015	(881,008)	\$ 0.73	-
Non-vested at January 1, 2016	5,156,710	\$ 1.29	-
Granted in 2016	6,361,841	\$ 1.93	-
Vested in 2016	(1,913,491)	\$ 1.31	-
Non-vested at December 31, 2016	9,605,060	\$ 1.74	-
Exercisable at December 31, 2016	3,051,007	\$ 1.22	-
Outstanding at December 31, 2016	12,656,067	\$ 1.62	-

As of December 31, 2016, total unrecognized compensation cost related to unvested stock options was \$9,050,116. The cost is expected to be recognized over a weighted average period of 1.77 years.

2017	2018	2019	2020	2021
\$ 4,660,365	\$ 2,858,434	\$ 1,313,163	\$ 213,937	\$ 4,217

## 9. Related Party Transactions

### *T.O. Medical Consulting*

Starting in September 2006, the Company entered into a series of consulting agreements with one of its stockholders whom previously served as Chairman, President and CEO of the Company. The Company paid \$-0- and \$75,000, for the years ended December 31, 2016 and 2015, respectively, in consulting fees to this related party.

On February 29, 2015, the Company terminated the consulting contract. As per the contract, the consultant was provided a ninety (90) day notice and all warrants issued became fully vested. For the year ended December 31, 2015, the remaining fair value of the warrants, \$324,533, was recognized as general and administrative expense.

#### ***AFH Holding & Advisory LLC***

The Company and MTF entered into a letter agreement with AFH Holdings & Advisory, LLC (“AFH”) dated May 7, 2014 (the “AFH/MTF Agreement”). Amir Heshmatpour is the controlling party of AFH and an affiliate and board observer of the Company. The AFH Agreement contemplated among other things (a) the sale of Notes in the principal amount of \$50,000 and warrants to purchase common stock, and (b) certain assistance to be provided by AFH in connection with the Merger, the subsequent quotation of the Company’s common stock, procuring private funding and a possible initial public offering. In consideration of AFH’s advisory services, the Company granted to AFH certain anti-dilution protection arising from future issuances of the Company’s common stock. The Company granted to each of AFH and MTF the right to appoint three members of the Board and to the original founding scientists and then minority shareholders the right to appoint one member with each of MTF and AFH having the right to appoint one individual with observer status with respect to the Board. The Company also granted to AFH the right to act as advisor to the Company on all financings for a period of two years. The AFH/MTF Agreement also granted to AFH and MTF restricted shares equal to 2.5% of the fully diluted shares of the Company (the “Milestone Shares”) at the time of completion of certain milestone targets. The milestone targets were not met and pursuant to separate side letter agreements dated August 11, 2015, the Company agreed to issue to each of AFH and MTF 867,163 shares in exchange for forfeiture of any claims to receive any Milestone Shares.

On October 28, 2015, the Company agreed (i) to issue to AFH 915,614 shares of common stock of the Company and warrants to purchase 158,229 shares of common stock and (ii) to make a payment of \$275,000. The warrants have an exercise price of \$1.58. The shares and warrants were issued and the payment was made to AFH as payment for advisory services rendered to the Company. The Company recognized the fair value on the shares, \$1,455,825, and the fair value of the warrants, \$172,470, as general and administrative expense.

Pursuant to a letter agreement dated February 10, 2016, the Company agreed to issue a total of 1,260,255 shares of common stock of the Company to AFH. The Letter Agreement was entered into in connection with the AFH/MTF Agreement under which AFH and its affiliated entities, individuals or assignees (“AFH Group”) were entitled to 10% of the outstanding shares of common stock of the Company on a fully diluted basis (the “Share Adjustment”) after giving effect to an anticipated private placement of between \$8,000,000 and \$10,000,000 (the “PIPE”). In the Letter Agreement, the Company recognized that, at the time the AFH/MTF Agreement was entered into, it was not anticipated that certain events in addition to the PIPE would dilute directly or indirectly the interest of AFH Group as stockholders of the Company, including the Ninth Amendment to the UCLA License Agreement and the issuance of the Company’s Common Shares pursuant to the Professional Services Agreement with each of Dr. Chia Soo, Dr. Ben Wu, and Dr. Eric Ting discussed below. Accordingly, the Company agreed to issue the 1,260,255 shares in connection with the Share Adjustment.

On April 7, 2016, the Company entered into a consulting agreement with AFH pursuant to which the Company engaged AFH for an initial term of three months to provide certain consulting services to the Company effective April 5, 2016. Under the consulting agreement, AFH received an up-front retainer of \$100,000 and \$33,333.33 per month for three months.

On June 1, 2016, the Company agreed (i) to issue to AFH 20,186 shares of common stock of the Company as an adjustment to the October 28, 2015 invoice and (ii) to issue 23,173 shares of common stock of the Company as an adjustment to the letter agreement dated February 10, 2016. The fair value of the shares issued for services, \$100,930, was recorded as general and administrative expense.

In addition to the shares and warrants issued for services, AFH received cash totaling \$525,000 and \$408,750 for services during the year ended December 31, 2016 and 2015, respectively.

Amir Heshmatpour is the controlling party of AFH and an affiliate of the Company.

### ***Musculoskeletal Transplant Foundation (MTF)***

On August 11, 2015 the Company entered into the Letter Agreement, by and between, Bone Biologics Corporation and MTF to amend the Side Letter Agreement, dated September 7, 2014 (the "Letter Agreement"), by and among Bone Biologics Corporation (formerly known as Bone Biologics, Inc., the "Company"), Musculoskeletal Transplant Foundation ("MTF") and AFH. Pursuant to the Letter Agreement, AFH and MTF are each entitled to receive shares of the Company equal to and not to exceed 2.5% of the fully diluted shares of the Company at the time of the completion of the Milestone Targets ("Milestone Shares"). The Milestone Targets have not been reached, and in consideration for the support and cooperation of MTF in trying to reach the Milestone Targets and the closing of certain financings, including the conversion of debt by MTF in order to facilitate certain financings, the Company hereby authorizes the issuance of Company Common Shares to MTF in the amount of 2.5% of the fully diluted shares, Eight Hundred Ninety Seven Thousand One Hundred Ninety-Three (867,163) Common Shares, of the Company as of the date hereof. The Company recognized \$1,370,118 as general and administrative expense.

On February 22, 2016, the Company entered into a share purchase agreement with MTF, pursuant to which MTF purchased from the Company an aggregate of 731,707 shares of common stock of the Company at a price per share equal to \$2.05.

On February 24, 2016 the Company entered into an Option Agreement for the Distribution and Supply of Sygnal™ demineralized bone matrix ("Sygnal") with MTF pursuant to which:

- a. MTF grants to the Company the exclusive right and option (the "Option") to distribute Sygnal upon the critical terms as described in the Option Agreement (the "Option Rights"). The Company will exercise the Option, if at all, by providing written notice to MTF of its intent to do so. During the term of the Option, MTF will not enter into any agreements with any third parties which include the transfer by MTF of the Option Rights.
- b. Upon the exercising of the Option, the Company will grant to MTF 700,000 shares of common stock in the Company.
- c. Within 30 days of exercising the Option, MTF will provide the Company with a written proposal of a Definitive Agreement that includes, *inter alia*, the Critical Terms and those other commercially reasonable terms as agreed upon by the parties. The parties will fully negotiate in good faith all of the terms of the Definitive Agreement, and any ancillary agreements thereto consistent with the Critical Terms.
- d. In the event the Company does not exercise the Option within the Term of the Option Agreement, MTF will be free to enter into any other agreement relating to the Option Rights as it deems appropriate without liability to the Company.

Sygnal is a bone void filler contouring allograft bone that has the inorganic mineral removed, leaving behind the organic "collagen" matrix.

On June 24, 2016, the Company exercised this option. As provided in the Option Agreement, the Company issued 700,000 shares of its restricted common stock in connection with the exercise of the Option. Additionally, within 30 days of exercising the Option, MTF will provide the Company with a written proposal of a Definitive Agreement that includes, *inter alia*, certain Critical Terms described in the Agreement and those other commercially reasonable terms as agreed upon by the parties. The parties will fully negotiate in good faith all of the terms of the Definitive Agreement and any ancillary agreements thereto consistent with the Critical Terms. The Company has expensed the cost of this license, \$1,435,000, as research and development in the current period.

On October 14, 2016, pursuant to a Note Purchase Agreement, the Company issued to MTF a convertible promissory note in the amount of \$600,000 (See Note 6).

Bruce Stroeveer, our Chairman of the Board, is the President and Chief Executive Officer of MTF.



## Founders

The Company entered into a Letter Agreement effective October 2, 2015, with each of Dr. Chia Soo (who currently serves as a director of the Company and is a director nominee), Dr. Eric Kang Ting and Dr. Ben Wu (who currently serves as a director of the Company and is a director nominee) (collectively, the “Founders”). The Founders were three of the original shareholders of the Company. Pursuant to the Letter Agreement, the Founders agrees to deliver to the Company all past work product and past data related to NELL-1 (the “Data”) for use by the Company in its sole discretion, within the applicable licensing rights granted under the UCLA license and in exchange the Company agreed to the future issuance of an aggregate of 1,153,846 shares of the Company’s common stock. The Shares are to be equally distributed between the Founders upon the earlier of (i) the third anniversary of the Agreement and (ii) the occurrence of a Liquidity Event (as defined in the Letter Agreement). The Letter Agreement also provides the Shares with certain piggyback registration rights upon the occurrence of an equity financing by the Company. The Letter Agreement related to past work product and past data and therefore will be expensed as research and development costs upon the effective date and recorded a liability to issue shares. The Letter Agreement related to past work product and past data and therefore was expensed as research and development costs in 2015 and recorded as shares to be issued.

## Founders Professional Services Agreement

Effective January 8, 2016, the Company entered into separate Professional Services Agreements with each of the Founders. Pursuant to each of the Agreements, each Founder has agreed to provide certain services to the Company, including providing strategic advice and strategic introductions to the Company’s management team as well as specific services set forth on an Exhibit to each Agreement. The Agreements are substantially identical. In consideration for the services to be rendered under the applicable Agreement, each Founder is granted 10-year stock options (the “Options”) to purchase 1,800,364 shares of the Company’s common stock corresponding to 4% of the Company’s outstanding common stock, on a fully diluted basis, at an exercise price of \$1.59 per share. The shares subject to the Options will vest 25% on each of the first, second and third anniversary of the effective date and 12.5% on each of the fourth and fifth anniversary of the effective date. The options fully vest on a change of control of the Company, if the Company terminates the Agreement without cause or the Founder terminates the Agreement with cause. Additionally, beginning January 1, 2017, the Company will pay each Founder an annual consulting fee of \$200,000 in cash or, at the option of the Company, in shares of its common stock valued as provided in the Agreement.

On December 13, 2016, the Company provided written notice that it is terminating the agreement for cause. Absent cure of the material breach of the agreement, termination of the agreement shall be effective on March 31, 2017. The Company continues to work with the founders in an attempt to resolve all outstanding issues under the agreement.

On June 1, 2016, the Company agreed to issue to each Founder a 10-year stock options to purchase 33,105 shares of the Company’s common stock at an exercise price of \$2.05 per share as an adjustment to the Professional Services Agreements with each of the Founders dated January 8, 2016.

Dr. Soo and Dr. Wu are directors of the Company, and Dr. Ting is on the Company’s Scientific Advisory Board. Each of the Advisors were involved in the founding of the Company.

## 10. Income Taxes

The provision for income taxes consists of the following:

Year Ended	December 31, 2016	December 31, 2015
Current:		
Federal	\$ -	\$ -
State	2,243	8,840
Total current	2,243	8,840
Deferred:		
Federal	-	-
State	-	-
Total deferred	-	-
Provision for income taxes	\$ 2,243	\$ 8,840

The components of deferred tax assets and liabilities consist of the following:

	<u>December 31, 2016</u>	<u>December 31, 2015</u>
Deferred tax assets		
Net operating losses	\$ 8,674,000	\$ 6,507,000
Patents	79,000	175,000
Accrued expenses	48,000	60,000
R&D credits	391,000	137,000
Warrants	<u>9,013,000</u>	<u>2,675,000</u>
Total	18,205,000	9,554,000
Less: Valuation allowance	<u>(18,205,000)</u>	<u>(9,554,000)</u>
	<u>\$ -</u>	<u>\$ -</u>

The Company's federal and state net operating loss carryforwards at December 31, 2016 and 2015 were approximately \$22,069,000 and \$16,226,000, respectively, and will begin to expire in 2019 if not utilized.

The Company reviews its deferred tax assets for realization based upon historical taxable income, prudent and feasible tax planning strategies, the expected timing of the reversals of existing temporary differences and expected future taxable income. The Company has concluded that it is more likely than not that the deferred tax assets will not be realized. Accordingly, the Company has recorded a valuation allowance against the net deferred tax assets in the amount of \$18,205,000 at December 31, 2016. The net change in the valuation allowance for the year ended December 31, 2016 was \$8,651,000.

The effective tax rate differs from the statutory tax rate principally due to the change in valuation allowance, nondeductible permanent differences, credits, and state income taxes.

The Company's effective tax rate is 0% for income tax for the years ended December 31, 2016 and 2015. Based on the weight of available evidence, including cumulative losses since inception and expected future losses, the Company has determined that it is more likely than not that the deferred tax asset amount will not be realized and therefore a valuation allowance has been provided on net deferred tax assets.

The Company files tax returns for U.S. Federal and State of California. The Company is not currently subject to any income tax examinations. Since the Company's inception, the Company had incurred losses from operations, which generally allows all tax years to remain open.

#### ***Uncertain Tax Positions***

The Company recognizes the financial statement effects of a tax position when it becomes more likely than not, based upon the technical merits, that the position will be sustained upon examination.

The Company recognizes interest and/or penalties related to uncertain tax positions. To the extent accrued interest and penalties do not ultimately become payable, amounts accrued will be reduced and reflected in the period that such determination is made. The interest and penalties are recognized as other expense and not tax expense. The Company currently has no interest and penalties related to uncertain tax positions.

## **11. Subsequent Events**

On February 10, 2017 pursuant to a Note Purchase Agreement, the Company issued to each of MTF and Hankey Capital a convertible promissory note in the amount of \$1,000,000 (each a "Convertible Note"). The Convertible Note matures on December 31, 2017 (the "Maturity Date") and bears interest at an annual rate of interest of 8.5% until maturity. Prior to the Maturity Date, each of MTF and Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company's common stock (the "Conversion Shares"), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Notes will be required to convert their Convertible Notes into the same securities issued in such financing at the same price per share. Also, if the Convertible Notes are not paid by the Maturity Date, they will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital's Convertible Note is secured by all of the Company's assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

The Company has evaluated subsequent events through March 28, 2017 the date which the consolidated financial statements were available to be issued. There were no additional subsequent events noted that would require adjustment to or disclosure in these consolidated financial statements.

**Bone Biologics Corporation**  
**Condensed Consolidated Balance Sheets**

	<u>June 30,</u> <u>2017</u>	<u>December 31,</u> <u>2016</u>
	<u>(unaudited)</u>	
<b>Assets</b>		
<b>Current assets</b>		
Cash	\$ 783,014	\$ 620,375
Prepaid expenses	85,181	80,523
Prepaid expenses – Related Party	271,945	271,945
Total current assets	<u>1,140,140</u>	<u>972,843</u>
Property and equipment, net	<u>194</u>	<u>242</u>
Total assets	<u>\$ 1,140,334</u>	<u>\$ 973,085</u>
<b>Liabilities and Stockholders' Deficit</b>		
<b>Current liabilities</b>		
Accounts payable and accrued expenses	\$ 432,330	\$ 260,149
Current notes payable, net of debt discount of \$1,090,910 and \$-0-, respectively	2,109,090	1,200,000
Deferred compensation	141,667	41,667
Shares to be issued	1,823,077	1,823,077
Total current liabilities	<u>4,506,164</u>	<u>3,324,893</u>
Note payable, net of debt discount of \$2,116,059 and \$2,717,752, respectively	<u>6,883,941</u>	<u>6,282,248</u>
Total liabilities	<u>11,390,105</u>	<u>9,607,141</u>
<b>Commitments and Contingencies</b>		
<b>Stockholders' deficit</b>		
Preferred Stock, \$0.001 par value per share; 20,000,000 shares authorized; none issued or outstanding at June 30, 2017 and December 31, 2016	-	-
Common stock, \$0.001 par value per share; 100,000,000 shares authorized; 38,828,607 shares issued and outstanding at June 30, 2017 and December 31, 2016	38,829	38,829
Additional paid-in capital	38,865,042	38,271,173
Accumulated deficit	<u>(49,153,642)</u>	<u>(46,944,058)</u>
Total stockholders' deficit	<u>(10,249,771)</u>	<u>(8,634,056)</u>
Total liabilities and stockholders' deficit	<u>\$ 1,140,334</u>	<u>\$ 973,085</u>

*See accompanying notes to unaudited condensed consolidated financial statements.*

**Bone Biologics Corporation**

**Condensed Consolidated Statements of Operations**

	Three Months Ended <u>June 30, 2017</u> (unaudited)	Three Months Ended June 30, 2016 (unaudited)	Six Months Ended <u>June 30, 2017</u> (unaudited)	Six Months Ended June 30, 2016 (unaudited)
<b>Revenues</b>	\$ -	\$ -	\$ -	\$ -
<b>Cost of revenues</b>	-	-	-	-
<b>Gross profit</b>	-	-	-	-
<b>Operating expenses</b>				
Research and development	(3,093,863)	2,318,735	(1,902,450)	6,996,936
General and administrative	1,118,900	1,969,863	2,087,661	3,851,889
<b>Total operating expenses</b>	(1,974,963)	4,288,598	185,211	10,848,825
<b>Income (Loss) from operations</b>	1,974,963	(4,288,598)	(185,211)	(10,848,825)
<b>Other expenses</b>				
Other expense	-	-	-	(4,862)
Interest expense, net	(1,108,742)	(511,588)	(2,022,774)	(922,797)
<b>Total other expenses</b>	(1,108,742)	(511,588)	(2,022,774)	(927,659)
<b>Income (Loss) before provision for income taxes</b>	866,221	(4,800,186)	(2,207,985)	(11,776,484)
<b>Provision for income taxes</b>	1,600	-	1,600	1,600
<b>Net Income (Loss)</b>	\$ 864,621	\$ (4,800,186)	\$ (2,209,585)	\$ (11,778,084)
<b>Weighted average shares outstanding – basic</b>	38,828,607	38,151,902	38,828,607	36,419,414
<b>Weighted average shares outstanding – diluted</b>	40,747,260	38,151,902	38,828,607	36,419,414
<b>Net Income (Loss) per share – basic</b>	\$ 0.02	\$ (0.13)	\$ (0.06)	\$ (0.32)
<b>Net Income (Loss) per share – diluted</b>	\$ 0.02	\$ (0.13)	\$ (0.06)	\$ (0.32)

*See accompanying notes to unaudited condensed consolidated financial statements.*

**Bone Biologics Corporation**

**Condensed Consolidated Statements of Cash Flows**

	<b>Six Months Ended June 30, 2017</b>	<b>Six Months Ended June 30, 2016</b>
	<b>(unaudited)</b>	<b>(unaudited)</b>
<b>Operating activities</b>		
Net loss	\$ (2,209,585)	\$ (11,778,084)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	48	620
Amortization of prepaid expenses – related party	-	39,093
Debt discount amortization	1,392,103	415,653
Debt issuance costs amortization	153,680	147,151
Stock-based compensation	1,038,239	1,939,157
Options issued to consultants	(2,444,369)	2,874,147
Warrants issued to consultants	-	100,930
Interest expense deducted from loan proceeds	-	1,889
Loss on disposal of assets	-	4,862
Shares issued for Sygnal license	-	1,435,000
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(4,658)	(29,203)
Accounts payable and accrued expenses	172,181	294,890
Deferred issuance costs	(35,000)	
Deferred compensation	100,000	-
Net cash (used in) operating activities	<u>(1,837,361)</u>	<u>(4,553,895)</u>
<b>Financing activities</b>		
Proceeds from exercise of warrants		1,250,000
Proceeds from issuance of common stock		2,500,000
Proceeds from issuance of notes payable	2,000,000	1,883,111
Net cash provided by financing activities	<u>2,000,000</u>	<u>5,633,111</u>
Net increase in cash	162,639	1,079,216
Cash, beginning of period	620,375	1,115,109
Cash, end of period	<u>\$ 783,014</u>	<u>\$ 2,194,325</u>
<b>Supplemental non-cash information</b>		
Interest paid	\$ 436,192	\$ 360,306
Taxes paid	<u>\$ 1,600</u>	<u>\$ 1,600</u>

*See accompanying notes to unaudited condensed consolidated financial statements.*

**Bone Biologics Corporation**  
**Notes to Unaudited Condensed Consolidated Financial Statements**

**1. The Company**

Bone Biologics Corporation (the “Company”) was 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 June 9, 2004. In connection with the merger, the 5,000,000 outstanding shares of common stock of the Company, par value \$0.001 per share (“Common Stock”), prior to the merger were consolidated into 3,853,600 shares of Common Stock and the remaining shares were cancelled.

Additionally, all of the issued and outstanding shares of Bone Biologics Inc.’s \$0.0001 par value common stock converted into a combined 19,897,587 shares of the Company’s Common Stock (including 2,151,926 shares issuable upon the exercise of outstanding warrants and 5,648,658 shares issuable upon the conversion of debt).

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/DBX®. The NELL-1/DBX® combination product is an osteostimulative recombinant protein that provides target specific control over bone regeneration. The protein, as part of the UCB-1 technology platform has been licensed exclusively for worldwide applications to us through a technology transfer from UCLA. UCLA and the Company received guidance from the FDA that NELL-1/DBX® will be classified as a combination product with a device lead.

We are an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, which we refer to as the JOBS Act. We would cease to be an emerging growth company upon the earliest of: (i) the last day of the first fiscal year in which our annual gross revenues are \$1.07 billion or more; (ii) the end of any fiscal year in which the market value of our common stock held by non-affiliates exceeded \$700.0 million as of the end of the second quarter of that fiscal year; or (iii) the date on which we have, during the previous three-year period, issued more than \$1.07 billion in non-convertible debt securities. An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies. We have elected to take advantage of these reduced disclosure obligations, and may elect to take advantage of other reduced reporting obligations in the future.

The JOBS Act permits an emerging growth company like us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We are choosing to irrevocably “opt out” of this provision and, as a result, we will comply with new or revised accounting standards as required when they are adopted.

The Company is a development stage entity. The production and marketing of the Company’s products and its 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 the Company 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 the Company will not encounter problems in clinical trials that will cause the Company or the FDA to delay or suspend clinical trials.

The Company’s success will depend in part on its 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 the Company will not be challenged, invalidated, or circumvented, or that the rights granted thereunder will provide proprietary protection or competitive advantages to the Company.

### ***Going Concern and Liquidity***

The Company has no significant operating history and, since inception to June 30, 2017, has generated a net loss of approximately \$49 million. The Company will continue to incur significant expenses for development activities for their lead product NELL-1. Operating expenditures for the next twelve months are estimated at \$5.5 million. The accompanying consolidated financial statements for the six months ended June 30, 2017 have been prepared assuming the Company will continue as a going concern. The Company intends to raise additional debt and/or equity financing to fund future operations and to provide additional working capital. However, there is no assurance that such financing will be consummated or obtained in sufficient amounts necessary to meet the Company's needs. If cash resources are insufficient to satisfy the Company's on-going cash requirements, the Company will be required to scale back or discontinue its product development programs, or obtain funds if available (although there can be no certainties) through strategic alliances that may require the Company to relinquish rights to its technology, substantially reduce or discontinue its operations entirely.

Pursuant to the October 2016 and February 2017 Note Purchase Agreements (Note 6), the Company may only use the proceeds from the issuance of the convertible notes to focus on prioritizing operations on essential research and development activities. Also pursuant to the October 2016 Note Purchase Agreement, the Company's management has agreed to defer 20% of earned compensation and the Board of Directors has authorized a change in director compensation to defer 50% of the directors' cash compensation until at least \$5,000,000 has been received in cumulative funding from non-current stockholders.

The accompanying consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from the possible inability of the Company to continue as a going concern.

### **2. Summary of Significant Accounting Policies**

We have prepared the unaudited interim condensed consolidated financial statements pursuant to the rules and regulations of the Securities and Exchange Commission. The information furnished herein reflects all adjustments (consisting of normal recurring accruals and adjustments) which are, in the opinion of management, necessary to fairly present the operating results for the respective periods. Certain information and footnote disclosures normally present in the annual consolidated financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been omitted pursuant to such rules and regulations. These consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes for the year ended December 31, 2016. The results of the three and six month periods ended June 30, 2017 are not necessarily indicative of the results to be expected for the full year ending December 31, 2017.

#### ***Basis of Presentation***

The accompanying condensed consolidated financial statements and related notes included activities of the Company and have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP").

#### ***Use of Estimates***

The preparation of the accompanying condensed consolidated financial statements in conformity with GAAP requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and reported amounts of expenses during the reporting period. Significant estimates include warrants and income tax valuation allowances. Actual results could differ from those estimates.



### ***Fair Value of Financial Instruments***

The Company's consolidated financial instruments are accounts payable and notes payable. The recorded values of accounts payable approximate their values based on their short-term nature. Notes payable are recorded at their issue value or if warrants are attached at their issue value less the value of the warrant.

The Company defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The fair value hierarchy is based on three levels of inputs that may be used to measure fair value, of which the first two are considered observable and the last is considered unobservable:

Level 1: Quoted prices in active markets for identical assets or liabilities.

Level 2: Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 assumptions: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities including liabilities resulting from embedded derivatives associated with certain warrants to purchase common stock.

### ***Property and Equipment***

Property and equipment are stated at cost. Depreciation is calculated using the straight-line method over the estimated useful lives of the related assets, ranging from three to seven years. Expenditures for additions and improvements are capitalized, while repairs and maintenance costs are expensed as incurred. The cost and related accumulated depreciation of property and equipment sold or otherwise disposed of are removed from the accounts and any gain or loss is recorded in the year of disposal.

### ***Impairment of Long-Lived Assets***

The long-lived assets held and used by the Company are reviewed for impairment no less frequently than annually or whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. In the event that facts and circumstances indicate that the cost of any long-lived assets may be impaired, an evaluation of recoverability is performed. Management has determined that there was no impairment in the value of long-lived assets during the six months ended June 30, 2017.

### ***Research and Development Costs***

Research and development costs include, but are not limited to, patents and license expenses, payroll and other personnel expenses, consultants, expenses incurred under agreements with contract research and manufacturing organizations and animal clinical investigative sites and the cost to manufacture clinical trial materials. Costs related to research, design and development of products are charged to research and development expense as incurred.

### ***Patents and Licenses***

In March 2006, the Company entered into an exclusive license agreement ("Exclusive License Agreement"), with UCLA for the worldwide application of the NELL-1 protein through a technology transfer. See Note 5 for commitments related to the Exclusive License Agreement. Patent expenses include costs to acquire the license of NELL-1, which was de minimis, and costs to file patent applications related to NELL-1.

The Company expenses the costs incurred to file patent applications, all costs related to abandoned patent applications and maintenance costs, and these costs are included in research and development expenses. Costs associated with licenses acquired to be able to use products from third parties prior to receipt of regulatory approval to market the related products are also expensed. The Company's licensed technologies may have alternative future uses in that they are enabling (or platform) technologies that can be the basis for multiple products that would each target a specific indication. Costs of acquisition of licenses are expensed.

### ***Prepaid expenses – related party***

Prepaid expenses – related party represent the fair value of warrants issued to AFH Holding & Advisory, LLC (“AFH”), a shareholder, for services pursuant to certain letter agreement dated May 4, 2014. Prepaid costs will be amortized as the required services are performed. As of June 30, 2017 and December 31, 2016 prepaid expenses – related party totaled \$271,945.

### ***Concentration of Credit Risk and Other Risks and Uncertainties***

Cash balances are maintained at financial institutions and, at times, balances may exceed federally insured limits. The Company has never experienced any losses related to these balances. Federal insurance coverage is \$250,000 per depositor at each financial institution. A substantial majority of the Company’s cash balances exceed federally insured limits.

### ***Debt Issuance Costs***

Debt issuance costs represent costs incurred in connection with the issuance of the convertible notes payable and private equity financing. Debt issuance costs related to the issuance of debt are being amortized over the term of the financing instrument using the effective interest method, while debt issuance costs from equity financings are netted against the gross proceeds received from the equity financings.

### ***Stock Based Compensation***

ASC 718, *Compensation – Stock Compensation*, prescribes accounting and reporting standards for all share-based payment transactions in which employee services are acquired. Transactions include incurring liabilities, or issuing or offering to issue shares, options, and other equity instruments such as employee stock ownership plans and stock appreciation rights. Share-based payments to employees, including grants of employee stock options, are recognized as compensation expense in the consolidated financial statements based on their fair values. That expense is recognized over the period during which an employee is required to provide services in exchange for the award, known as the requisite service period (usually the vesting period).

The Company accounts for stock-based compensation issued to non-employees and consultants in accordance with the provisions of ASC 505-50, *Equity – based Payments to Non-Employees*. Measurement of share-based payment transactions with non-employees is based on the fair value of whichever is more reliably measurable: (a) the goods or services received; or (b) the equity instruments issued. The fair value of the share-based payment transaction is determined at the earlier of performance commitment date or performance completion date.

Pursuant to ASU No. 2016-09 – *Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*, the Company accounts for forfeitures when they occur.

### ***Income Taxes***

Income taxes are provided for the tax effects of transactions reported in the consolidated financial statements and consist of taxes currently due and deferred taxes resulting from timing differences in recording of transactions for tax purposes and financial reporting purposes.

The deferred tax assets and liabilities represent the future tax return consequences of those differences, which will either be taxable or deductible when the assets and liabilities are received or settled. Valuation allowances are established when necessary to reduce deferred tax assets to amounts expected to be realized.

The accounting provisions related to uncertain income tax positions require the Company to determine whether any tax position in all open years meets a more likely than not threshold of being sustained upon examination by the applicable taxing authority. The Company did not have any changes to its liability for uncertain tax positions as at June 30, 2017 and December 31, 2016.

The Company's policy is to recognize interest and/or penalties related to income tax matters in income tax expense. No such amounts are accrued as of June 30, 2017 and December 31, 2016.

### **Loss per Common Share**

The Company utilizes FASB ASC Topic No. 260, *Earnings per Share*. Basic loss per share is computed by dividing loss available to common shareholders by the weighted-average number of common shares outstanding. Diluted loss per share is computed similar to basic loss per share except that the denominator is increased to include the number of additional common shares that would have been outstanding if the potential common shares had been issued and if the additional common shares were dilutive. Diluted loss per common share reflects the potential dilution that could occur if convertible debentures, options and warrants were to be exercised or converted or otherwise resulted in the issuance of common stock that then shared in the earnings of the entity.

Since the effects of outstanding options, warrants, and the conversion of convertible debt are anti-dilutive in during the three months ended June 30, 2016 and the six months periods ended June 30, 2017 and 2016, shares of common stock underlying these instruments have been excluded from the computation of loss per common share.

The following sets forth the number of shares of common stock underlying outstanding options, warrants, and convertible debt as of June 30, 2017 and 2016:

	<b>June 30,</b>	
	<b>2017</b>	<b>2016</b>
Warrants	10,390,820	10,451,740
Stock options	8,591,017	12,656,067
Convertible promissory notes	8,896,203	5,696,203
	<u>27,878,040</u>	<u>28,804,010</u>

### **New Accounting Standards**

The Company has reviewed all recently issued, but not yet adopted, accounting standards in order to determine their effects, if any, on its results of operation, financial position or cash flows. Based on that review, the Company believes that none of these pronouncements will have a significant effect on its consolidated financial statements.

In August 2016, the FASB issued authoritative guidance under ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*. ASU 2016-15 is intended to reduce diversity in practice in how certain cash receipts and cash payments are presented and classified in the Consolidated Statement of Cash Flows by providing guidance on eight specific cash flow issues. ASU 2016-15 is effective retrospectively on January 1, 2018, with early adoption permitted. We have not yet determined the effect of the ASU on our Consolidated Financial Statements nor have we selected a transition date.

In January 2017, the FASB issued authoritative guidance under ASU 2017-01, *Business Combinations – Clarifying the Definition of a Business*, which clarifies the definition of a business to assist entities with evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. The standard introduces a screen for determining when assets acquired are not a business and clarifies that a business must include, at a minimum, an input and a substantive process that contribute to an output to be considered a business. This standard is effective for fiscal years beginning after December 15, 2017, including interim periods within that reporting period. The Company does not expect this new guidance to have a material impact on its consolidated financial statements.

### **3. Property and Equipment**

Property and equipment consist of the following at:

	<b>June 30, 2017</b>	December 31, 2016
Furniture and equipment	\$ 503	\$ 503
Less accumulated depreciation	(309)	(261)
	<u>\$ 194</u>	<u>\$ 242</u>

Depreciation expense for the six months ended June 30, 2017 and 2016 was \$48 and \$620, respectively. During the six months ended June 30, 2016, we recorded a loss on disposal of assets of \$4,862.

#### 4. Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses consist of the following:

	June 30, 2017	December 31, 2016
Interest expense	\$ 114,750	\$ 22,383
Accounts payable	114,355	226,516
Accrued bonus	171,000	-
Deferred Directors' fees	32,225	11,250
	<u>\$ 432,330</u>	<u>\$ 260,149</u>

#### 5. Commitments and Contingencies

##### *UCLA Exclusive License Agreement*

On March 15, 2006, the Company entered into an exclusive license agreement (the "Initial Agreement") with the Regents of the University of California Los Angeles ("UCLA"). The Initial Agreement has been amended through ten sets of amendments (as so amended, the "The UCLA License Agreement").

The UCLA License Agreement provides us with an exclusive license to several of UCLA patents covering, among other things, enhanced NELL-1 bone mineralization. The grant of the UCLA License Agreement is subject to any license obligations to the U.S. government, and the term of the license lasts until the last-to-expire UCLA patent licensed under the UCLA License Agreement expires. Under the UCLA License Agreement, we are permitted to make, have made, use, sell, offer for sale and import any products covered by the UCLA License Agreement patents in a certain Field of Use which is currently defined as special function by local administration and expressly excludes osteoporosis and cartilage indications or systemic administration in all indications. Pursuant to a Tenth Amendment, we have been granted the exclusive right to negotiate an expansion of the Field of Use to include treatment of osteoporosis (the "Option"). The term of the Option is for one year commencing June 1, 2016. We may exercise the option by providing notice after completion of certain milestones. Effective May 22, 2017, the Company has met all milestones required to exercise the Option to expand the Field of Use to include treatment of osteoporosis and had begun good faith discussions with UCLA for the terms of an agreement.

After December 22, 2016, we may notify UCLA of our interest in requesting an expansion of the Field of Use to include additional available indications, including cartilage indications or systemic administration in the Field of Use. The parties will engage in good faith discussions of such requests.

We have agreed to pay an annual maintenance fee to UCLA of \$10,000 as well as to pay certain royalties to UCLA under the UCLA License Agreement at the rate of 3.0% of net sales of licensed products. We must pay the royalties to UCLA on a quarterly basis. Upon a first commercial sale, we also must pay between \$50,000 and \$250,000, depending on the calendar year that is after the first commercial sale. If we are required to pay any third party any royalties as a result of us making use of UCLA patents, then we may reduce the royalty owed to UCLA by 0.333% for every percentage point paid to a third party. If we grant sublicense rights to a third party to use the UCLA patent, then we will pay to UCLA 10% to 20% of the sublicensing income we receive from such sublicense.

We are obligated to make the following milestone payments to UCLA for each Licensed Product or Licensed Method:

- \$100,000 upon enrollment of the first subject in a Feasibility Study;
- \$250,000 upon enrollment of the first subject in a Pivotal Study;
- \$500,000 upon Pre-Market Approval of a Licensed Product or Licensed Method; and
- \$1,000,000 upon the First Commercial Sale of a Licensed Product or Licensed Method.

We are also obligated to pay UCLA a cash milestone payment within thirty (30) days of a Liquidity Event (including a Change of Control Transaction and a payment election by UCLA exercisable after December 22, 2016, such payment to equal the greater of:

- \$500,000; or
- 2% of all proceeds in connection with a Change of Control Transaction.

We are obligated to diligently proceed with developing and commercializing licensed products under UCLA patents set forth in the UCLA License Agreement. UCLA has the right to either terminate the license or reduce the license to a non-exclusive license if we do not meet certain diligence milestone deadlines set forth in the UCLA License Agreement.

We must reimburse or pre-pay UCLA for patent prosecution and maintenance costs incurred during the term of the UCLA License Agreement. We have the right to bring infringement actions against third party infringers of the UCLA License Agreement, UCLA may join voluntarily, at its own expense, or, at our expense, be joined involuntarily to the action. We are required to indemnify UCLA against any third party claims arising out of our exercise of the rights under the UCLA License Agreement or any sublicense.

### ***Contingencies***

The Company is subject to claims and assessments from time to time in the ordinary course of business. The Company's management does not believe that any such matters, individually or in the aggregate, will have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

### ***Indemnification***

In the normal course of business, the Company enters into contracts and agreements that contain a variety of representations and warranties and provide for general indemnifications. The Company's exposure under these agreements is unknown because it involves claims that may be made against the Company in the future, but have not yet been made. To date, the Company has not paid any claims or been required to defend any action related to its indemnification obligations. However, the Company may record charges in the future as a result of these indemnification obligations.

In accordance with its amended and restated certificate of incorporation and amended and restated bylaws, the Company has indemnification obligations to its officers and directors for certain events or occurrences, subject to certain limits, while they are serving at the Company's request in such capacity. There have been no claims to date and the Company has a director and officer insurance policy that enables it to recover a portion of any amounts paid for future potential claims.

## **6. Notes Payable**

### ***Convertible Notes Payable***

The convertible promissory notes are considered hybrid instruments, which consist of a debt host instrument together with a conversion feature, thus giving the holder of a convertible note an option to convert into an equity instrument providing the holder a residual interest in the Company. The holder of a convertible promissory note also has the option to present its convertible promissory note to the Company and demand payment under the terms of the note after the maturity date or upon the occurrence of certain events such as the failure of the Company to make a payment on the note when due, bankruptcy or certain other liquidation events. The Company concluded that the convertible promissory notes would be accounted for as a typical debt instrument with related interest expense recorded in the Company's statements of operations. The Company's Third Convertible Secured Term Note and October 2016 and February 2017 Convertible Promissory Notes contain a conversion feature is determined to be "beneficial" and the fair value of the conversion feature is recorded as financing costs Company's statements of operations.

### ***First Secured Convertible Note and Warrant***

On October 24, 2014, the Company issued a convertible promissory note in the amount of \$5,000,000 to Hankey Capital, LLC (“Hankey Capital”). The Convertible Note matures on December 31, 2019 and bears interest at an annual rate of interest of the “prime rate” plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s Common Stock, at a conversion rate of \$1.58 per share.

The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50% (the “Collateral”). 6,329,114 shares were issued upon closing the lending. The number of shares in the Collateral shall be adjusted on a yearly basis. The shares representing the Collateral contain a restrictive legend. The Company shall seek to register the Collateral shares initially delivered on the date of the Convertible Note pursuant to the Registration Rights Agreement described below. Upon the effectiveness of such Registration Statement, the Company will remove the restrictive legends from the Collateral shares so long as Hankey Capital agrees in any event not to sell any Collateral shares if Hankey Capital is notified that the Registration Statement is no longer effective. Hankey Capital may hold the Collateral in any brokerage account of its choosing, but shall not transfer, sell or otherwise dispose of any Collateral, except during the existence of an Event of Default, as defined in the Convertible Note. The Convertible Note is further secured by collateral assignments of all the Company’s license agreements. The principal amount of the loan is pre-payable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital will return Collateral shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all Collateral shares shall be returned return and cancelled. Hankey Capital will also return Collateral shares under the same terms in case of partial or full conversion of the Convertible Note. The Company paid a commitment fee in the amount of 3.0% of the original principal amount of the loan (\$150,000) to Hankey Capital. On October 24, 2014, the Company also issued a warrant to Hankey Capital for 3,955,697 shares of Common Stock at an exercise price per share of \$1.58. The Warrant was amended as of February 10, 2016 to extend the expiration date to October 24, 2019. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

### ***Second Secured Convertible Note and Warrant***

On May 4, 2015, the Company issued a convertible promissory note in the amount of \$2,000,000 to Hankey Capital. The Second Convertible Note matures on December 31, 2019 and bears interest at an annual rate of interest of the “prime rate” plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s Common Stock, at a conversion rate of \$1.58 per share. The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50%. The number of shares in the Collateral shall be adjusted on a yearly basis. The Convertible Note is further secured by collateral assignments of all the Company’s license agreements. The principal amount of the loan is pre-payable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital shall return Collateral shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all the collateral shares shall be returned return and cancelled. Hankey Capital shall also return the collateral shares under the same terms in case of partial or full conversion of the Convertible Note. In connection with the Convertible Note, on May 4, 2015 the Company issued 2,531,646 common shares as collateral. The Company paid a commitment fee in the amount of \$60,000 (3% of the original principal amount of the loan) to Hankey Capital. On May 4, 2015, the Company also issued a warrant to Hankey Capital for 1,898,734 shares of Common Stock at an exercise price per share of \$1.58. The Warrant was amended as of February 10, 2016 to extend the expiration date to May 4, 2020. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

### ***Third Convertible Secured Term Note and Warrant***

On February 24, 2016, the Company issued a convertible promissory note in the amount of \$2,000,000 to Hankey Capital. The Third Convertible Note matures on February 23, 2019 (the “Maturity Date”) and bears interest at an annual rate of interest at the “prime rate” (as quoted in the “Money Rates” section of The Wall Street Journal) plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.58 per share. The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50%. The number of Collateral Shares will be adjusted on a yearly basis. The Convertible Note is further secured by all of the Company’s personal property, including collateral assignments of all the Company’s license agreements and the Option Agreement. The principal amount of the loan is prepayable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital will return Collateral Shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all Collateral Shares will be returned and cancelled. Hankey Capital will also return Collateral Shares under the same terms in case of partial or full conversion of the Convertible Note. In connection with the Convertible Note, on February 24, 2016 the Company issued 2,531,646 common shares as collateral, paid a commitment fee in the amount of \$40,000 (2% of the original principal amount of the Loan) and a warrant to Hankey Capital for 1,463,415 shares of Common Stock at an exercise price per share of \$2.05. The Warrant will expire on February 23, 2021. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

In connection with the financing with Hankey Capital, Hankey Capital exercised warrants to purchase an aggregate of 791,139 shares resulting in gross proceeds to the Company of \$1,250,000, and the parties agreed to extend the maturity date of the first two convertible secured notes to December 31, 2019 and fix the conversion rate to \$1.58. The Company also agreed to extend the term of all outstanding warrants to five years from issuance.

### ***Convertible Promissory Notes***

On October 14, 2016, pursuant to a Note Purchase Agreement, the Company issued to each of MTF and Hankey Capital a convertible promissory note in the amount of \$600,000 (each a “Convertible Note”). The Convertible Note matures on December 31, 2017 (the “Maturity Date”) and bears interest at an annual rate of interest of 8.5% per annum until maturity. Prior to the Maturity Date, each of MTF and Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Notes will be required to convert their Convertible Notes into the same securities issued in such financing at the same price per share. In addition, if the Convertible Notes are not paid by the Maturity Date, they will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital’s Convertible Note is secured by all of the Company’s assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

Pursuant to the October 2016 and February 2017 Note Purchase Agreements, the Company may only use the proceeds from the issuance of those convertible notes to focus on prioritizing operations on essential research and development activities. Also pursuant to the October 2016 Note Purchase Agreement, the Company’s management has agreed to defer 20% of earned compensation and the Board of Directors has authorized a change in director compensation to defer 50% of the directors’ cash compensation until at least \$5,000,000 has been received in cumulative funding from non-current stockholders.

On January 23, 2017 the Company, MTF and Hankey Capital, executed an amendment (the “Amendment”) to the Convertible Notes. The Amendment extends the maturity date of each of the Convertible Notes to December 31, 2017 from December 31, 2016. By extending the maturity date, the date that the Convertible Notes automatically convert into shares of the Company’s Common Stock was also extended to December 31, 2017. The Amendment was effective retroactive to December 31, 2016.

On February 10, 2017 pursuant to a Note Purchase Agreement, the Company issued to each of MTF and Hankey Capital a convertible promissory note in the amount of \$1,000,000 (each a “Convertible Note”). The Convertible Note matures on December 31, 2017 (the “Maturity Date”) and bears interest at an annual rate of interest of 8.5% until maturity. Prior to the Maturity Date, each of MTF and Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Notes will be required to convert their Convertible Notes into the same securities issued in such financing at the same price per share. Also, if the Convertible Notes are not paid by the Maturity Date, they will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital’s Convertible Note is secured by all of the Company’s assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

The total debt discount costs related to our outstanding debt for the six months ended June 30, 2017 and 2016, was \$1,392,103 and \$415,653, respectively was amortized to interest expense. The unamortized debt discount at June 30, 2017 was \$2,975,606. The cost is expected to be recognized over a period of 1.52 years. The unamortized debt discount at December 31, 2016 was \$2,367,708.

The total debt issuance costs related to our outstanding debt for the six months ended June 30, 2017 and 2016, was \$153,680 and \$147,151, respectively was amortized to interest expense. The unamortized debt issuance costs at June 30, 2017 was \$231,363. The cost is expected to be recognized over a period of 1.52 years. The unamortized debt issuance costs at December 31, 2016 was \$350,044.

Note Type	Issue Date	Maturity Date	Interest Rate	June 30, 2017	December 31, 2016
<i>First Secured Convertible Note</i>	10/24/14	12/31/19	8.5%	5,000,000	5,000,000
<i>Second Secured Convertible Note</i>	5/4/15	12/31/19	8.5%	2,000,000	2,000,000
<i>Third Secured Convertible Note</i>	2/24/16	2/23/19	8.5%	2,000,000	2,000,000
<i>Convertible Promissory Notes</i>	10/14/16	12/31/17	8.5%	1,200,000	1,200,000
<i>Convertible Promissory Notes</i>	2/10/17	12/31/17	8.5%	2,000,000	-
				12,200,000	10,200,000
Less: Current notes payable, net				2,109,090	1,200,000
Less: Debt discount				2,975,606	2,367,708
Less: Debt issuance costs				231,363	350,044
Net Notes payable				<u>\$ 6,883,941</u>	<u>\$ 6,282,248</u>

## 7. Stockholders’ Equity

### *Preferred Stock*

The Company’s amended and restated certificate of incorporation authorizes the Company to issue a total of 20,000,000 shares of preferred stock. No shares have been issued.



### **Common Stock**

The Company's amended and restated certificate of incorporation authorizes the Company to issue a total of 100,000,000 shares of common stock. As of June 30, 2017 and December 31, 2016, the Company had an aggregate of 38,828,607 shares of common stock outstanding.

In connection with the Secured Convertible Notes to Hankey Capital, the Company issued 11,392,406 common shares as collateral. (See Note 6)

Each share of common stock has the right to one vote. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when declared by the Board of Directors, subject to the prior rights of holders of all classes of stock outstanding having priority rights as to dividends. No dividends have been declared by the Board.

### **Common Stock Warrants**

As of June 30, 2017, the Company had outstanding unexercised Common Stock Warrants as follows:

Date Issued	Exercise Price	Number of Shares	Expiration date
2009	\$ 0.44	118,383	March 16, 2019
2010	\$ 0.44	254,997	February 4, 2020
April 2013	\$ 1.00	50,000	April 28, 2020
September 2013	\$ 1.00	50,000	September 4, 2020
September 2013	\$ 1.00	25,000	September 20, 2020
November 2013	\$ 1.00	75,000	November 14, 2020
July 2014	\$ 1.50	166,667	May 30, 2018
July 2014	\$ 1.50	166,667	September 30, 2018
July 2014	\$ 1.00	500,000	September 30, 2018
July 2014	\$ 1.00	46,667	July 2, 2018
July 2014	\$ 0.00	12,625	July 10, 2018
September 2014	\$ 1.62	625,000	August 31, 2021
September 2014	\$ 1.00	699,671	September 18, 2021
September 2014	\$ 1.00	89,588	September 29, 2021
October 2014	\$ 1.00	126,582	October 23, 2017
October 2014	\$ 1.58	3,164,558	October 23, 2019
February 2015	\$ 1.58	699,037	February 14, 2018
May 2015	\$ 1.58	1,898,734	May 4, 2020
October 2015	\$ 1.58	158,229	October 27, 2018
February 2016	\$ 2.05	1,463,415	February 23, 2021
Total warrants at June 30, 2017		<u>10,390,820</u>	2.71 years

No common stock warrants were exercised or expired during the six months ended June 30, 2017. An aggregate of 791,139 common stock warrants were exercised during the six months ended June 30, 2016. No common stock warrants expired during the six months ended June 30, 2016.

## 8. Stock-based Compensation

### 2015 Equity Incentive Plan

The Company has 14,000,000 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 will be 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.

During the six months ended June 30, 2017 and 2016, the Company had stock-based compensation expenses of \$1,038,239 and \$1,939,157, respectively, related to issuances to the Company's employees and directors, included in our reported net loss. During the six months ended June 30, 2017 and 2016, the Company had stock-based compensation expenses of \$(2,444,369) and \$2,874,147, respectively, related to issuances to consultants.

A summary of stock option activity for the six months ended June 30, 2017, is presented below:

Subject to Exercise	Number of Shares Remaining Options	Weighted Average Exercise Price	Weighted Average Life (Years)	Aggregate Value
<b>Outstanding as of January 1, 2016</b>	6,294,226	\$ 1.59	10.00	-
<b>Granted – 2016</b>	6,361,841	1.66	9.95	-
<b>Forfeited – 2016</b>	-	-	-	-
<b>Exercised – 2016</b>	-	-	-	-
<b>Outstanding as of January 1, 2017</b>	12,656,067	\$ 1.62	9.21	-
<b>Granted – 2017</b>	80,341	2.05	10.00	-
<b>Forfeited – 2017</b>	(4,145,391)	1.60	8.54	-
<b>Exercised – 2017</b>	-	-	-	-
<b>Outstanding as of June 30, 2017</b>	<u>8,591,017</u>	<u>\$ 1.64</u>	<u>8.07</u>	<u>-</u>

Date Issued	Exercise Price	Number of Shares	Expiration date
September 2014	\$ 1.59	583,059	December 27, 2025
November 2014	\$ 1.59	174,918	December 27, 2025
August 2015	\$ 1.59	3,121,787	December 27, 2025
September 2015	\$ 1.59	300,000	December 27, 2025
November 2015	\$ 1.59	1,224,640	December 27, 2025
December 2015	\$ 1.59	889,822	December 27, 2025
January 2016	\$ 1.59	1,275,786	January 9, 2026
March 2016	\$ 2.05	54,000	February 24, 2021
May 2016	\$ 2.05	807,434	May 26, 2026
June 2016	\$ 2.05	99,315	May 31, 2026
January 2017	\$ 2.05	60,256	January 1, 2027

Total options at June 30, 2017 8,591,017

The aggregate intrinsic value in the table above represents the total pre-tax intrinsic value ( *i.e.* , the difference between our closing stock price on the respective date and the exercise price, times the number of shares) that would have been received by the option holders had all option holders exercised their options. There have not been any options exercised during either the six months ended June 30, 2017 and 2016. There were 4,125,306 options cancelled in conjunction with the termination of the Founders Professional Services Agreement (Note 10). There were 20,085 options forfeited upon the resignation of one of our directors. Our policy is to account for forfeitures when they occur; therefore these forfeitures are recorded as a reversal to expense. Forfeiture reversals for the six months ended June 30, 2017 and 2016 were \$3,650,419 and \$-0-, respectively.

There were 80,341 and 6,361,841 options issued during the six months ended June 30, 2017 and 2016, respectively. Vesting of options differs based on the terms of each option. The Company has valued the options at their date of grant utilizing the Black-Scholes option pricing model. As of the issuance of these consolidated financial statements, there was not an active public market for the Company's shares. Accordingly, the fair value of the underlying options was determined based on the historical volatility data of similar companies, considering the industry, products and market capitalization of such other entities. The risk-free interest rate used in the calculations is based on the implied yield available on U.S. Treasury issues with an equivalent term approximating the expected life of the options as calculated using the simplified method. The expected life of the options used was based on the contractual life of the option granted. Stock-based compensation is a non-cash expense because we settle these obligations by issuing shares of our common stock from our authorized shares instead of settling such obligations with cash payments.

The Company utilized the Black-Scholes option pricing model. The assumptions used for the six months ended June 30, 2017 are as follows:

	<u>June 30, 2017</u>
Risk free interest rate	1.99%-2.306%
Expected life (in years)	5.5-9.0
Expected Volatility	135.94%-150.09%
Expected dividend yield	0%

A summary of the changes in the Company's non-vested options during the three months ended June 30, 2017, is as follows:

	Number of Non-vested Options	Weighted Average Fair Value at Grant Date	Intrinsic Value
Non-vested at January 1, 2016	5,156,710	\$ 1.29	-
Granted in 2016	6,361,841	\$ 1.93	-
Vested in year ended December 31, 2016	(1,913,491)	\$ 1.31	-
Non-vested at January 1, 2017	9,605,060	\$ 1.74	-
Granted in 2017	80,341	\$ 1.87	-
Forfeited – 2017	(4,145,391)	\$ 1.95	-
Vested in 2017	(1,395,186)	\$ 1.95	-
Non-vested at June 30, 2017	4,144,824	\$ 1.47	-
Exercisable at June 30, 2017	4,446,193	\$ 1.45	-
Outstanding at June 30, 2017	<b>8,591,017</b>	\$ 1.46	-

As of June 30, 2017, total unrecognized compensation cost related to unvested stock options was \$2,452,869. The cost is expected to be recognized over a weighted average period of 0.77 years.

	2017		2018		2019
\$	1,190,434	\$	915,495	\$	346,940

## 9. Income Taxes

The Company's effective tax rate is 0% for income tax for the six months ended June 30, 2017 and the Company expects that its effective tax rate for the full year 2017 will be 0%. Based on the weight of available evidence, including cumulative losses since inception and expected future losses, the Company has determined that it is more likely than not that the deferred tax asset amount will not be realized and therefore a valuation allowance has been provided on net deferred tax assets.

The Company files tax returns for U.S. Federal and the states of New Jersey and California. The Company is not currently subject to any income tax examinations. Since the Company's inception, the Company had incurred losses from operations, which generally allows all tax years to remain open.

### *Uncertain Tax Positions*

The Company recognizes the financial statement effects of a tax position when it becomes more likely than not, based upon the technical merits, that the position will be sustained upon examination.

The Company recognizes interest and/or penalties related to uncertain tax positions. To the extent accrued interest and penalties do not ultimately become payable, amounts accrued will be reduced and reflected in the period that such determination is made. The interest and penalties are recognized as other expense and not tax expense. The Company currently has no interest and penalties related to uncertain tax positions.

## 10. Related Party Transactions

### *AFH Holding & Advisory LLC*

Pursuant to a letter agreement dated February 10, 2016, the Company agreed to issue a total of 1,260,255 shares of common stock of the Company to AFH. The Letter Agreement was entered into in connection with the AFH/MTF Agreement under which AFH and its affiliated entities, individuals or assignees ("AFH Group") were entitled to 10% of the outstanding shares of common stock of the Company (the "Share Adjustment") after giving effect to an anticipated private placement of between \$8,000,000 and \$10,000,000 (the "PIPE"). In the Letter Agreement, the Company recognized that, at the time the AFH/MTF Agreement was entered into, it was not anticipated that certain events in addition to the PIPE would dilute directly or indirectly the interest of AFH Group as stockholders of the Company, including the Ninth Amendment to the UCLA License Agreement and the issuance of the Company's Common Shares pursuant to the Professional Services Agreement with each of Dr. Chia Soo, Dr. Ben Wu, and Dr. Eric Ting discussed below. Accordingly, the Company agreed to issue the 1,260,255 shares in connection with the Share Adjustment.

On April 7, 2016, the Company entered into a consulting agreement with AFH pursuant to which the Company engaged AFH for a term of three months to provide certain consulting services to the Company effective April 5, 2016. Under the consulting agreement, AFH received an up-front retainer of \$100,000 and \$33,333.33 per month for three months.

On June 1, 2016, the Company agreed (i) to issue to AFH 20,186 shares of common stock of the Company as an adjustment to the October 28, 2015 invoice and (ii) to issue 23,173 shares of common stock of the Company as an adjustment to the letter agreement dated February 10, 2016. The fair value of the shares issued for services, \$100,930, was recorded as general and administrative expense.

In addition to the shares and warrants issued for services, AFH received cash totaling \$-0- and \$325,000 for services during the six months ended June 30, 2017 and 2016, respectively.

Amir Heshmatpour is the controlling party of AFH.

***Musculoskeletal Transplant Foundation (MTF)***

On February 22, 2016, the Company entered into a share purchase agreement with MTF, pursuant to which MTF purchased from the Company an aggregate of 731,707 shares of common stock of the Company at a price per share equal to \$2.05.

On February 24, 2016 the Company entered into an Option Agreement for the Distribution and Supply of Sygnal™ demineralized bone matrix (“Sygnal”) with MTF pursuant to which:

- a. MTF grants to the Company the exclusive right and option (the “Option”) to distribute Sygnal upon the critical terms as described in the Option Agreement (the “Option Rights”). The Company will exercise the Option, if at all, by providing written notice to MTF of its intent to do so. During the term of the Option, MTF will not enter into any agreements with any third parties which include the transfer by MTF of the Option Rights.
- b. Upon the exercising of the Option, the Company will grant to MTF 700,000 shares of common stock in the Company.
- c. Within 30 days of exercising the Option, MTF will provide the Company with a written proposal of a Definitive Agreement that includes, *inter alia*, the Critical Terms and those other commercially reasonable terms as agreed upon by the parties. The parties will fully negotiate in good faith all of the terms of the Definitive Agreement, and any ancillary agreements thereto consistent with the Critical Terms.
- d. In the event the Company does not exercise the Option within the Term of the Option Agreement, MTF will be free to enter into any other agreement relating to the Option Rights as it deems appropriate without liability to the Company.

Sygnal is a bone void filler contouring allograft bone that has the inorganic mineral removed, leaving behind the organic “collagen” matrix.

On June 24, 2016, the Company exercised this option. As provided in the Option Agreement, the Company issued 700,000 shares of its restricted common stock in connection with the exercise of the Option. Additionally, within 30 days of exercising the Option, MTF will provide the Company with a written proposal of a Definitive Agreement that includes, *inter alia*, certain Critical Terms described in the Agreement and those other commercially reasonable terms as agreed upon by the parties. The parties will fully negotiate in good faith all of the terms of the Definitive Agreement and any ancillary agreements thereto consistent with the Critical Terms. The Company expensed the cost of this license, \$1,435,000, as research and development during the year ended December 31, 2016.

On October 14, 2016, pursuant to a Note Purchase Agreement, the Company issued to MTF a convertible promissory note in the amount of \$600,000 (See Note 6).

On February 10, 2017, pursuant to a Note Purchase Agreement, the Company issued to MTF a convertible promissory note in the amount of \$1,000,000 (See Note 6).

Bruce Stroeve, our Chairman of the Board, is the President and Chief Executive Officer of MTF.

## ***Founders***

The Company entered into a Letter Agreement effective October 2, 2015, with each of Dr. Chia Soo, Dr. Eric Kang Ting and Dr. Ben Wu (collectively, the “Founders”). The Founders were three of the original shareholders of the Company. Pursuant to the Letter Agreement, the Founders agrees to deliver to the Company all past work product and past data related to NELL-1 (the “Data”) for use by the Company in its sole discretion, within the applicable licensing rights granted under the UCLA license and in exchange the Company agreed to the future issuance of an aggregate of 1,153,846 shares of the Company’s common stock. The Shares are to be equally distributed between the Founders upon the earlier of (i) the third anniversary of the Agreement and (ii) the occurrence of a Liquidity Event (as defined in the Letter Agreement) and is currently reported as shares to be issued.

## ***Founders Professional Services Agreement***

Effective January 8, 2016, the Company entered into separate Professional Services Agreements with each of the Founders. Pursuant to each of the Agreements, each Founder has agreed to provide certain services to the Company, including providing strategic advice and strategic introductions to the Company’s management team as well as specific services set forth on an Exhibit to each Agreement. The Agreements are substantially identical. In consideration for the services to be rendered under the applicable Agreement, each Founder is granted 10-year stock options (the “Options”) to purchase 1,800,364 shares of the Company’s common stock corresponding to 4% of the Company’s outstanding common stock, on a fully diluted basis, at an exercise price of \$1.59 per share. The shares subject to the Options will vest 25% on each of the first, second and third anniversary of the effective date and 12.5% on each of the fourth and fifth anniversary of the effective date. The options fully vest on a change of control of the Company, if the Company terminates the Agreement without cause or the Founder terminates the Agreement with cause. Additionally, beginning January 1, 2017, the Company will pay each Founder an annual consulting fee of \$200,000 in cash or, at the option of the Company, in shares of its common stock valued as provided in the Agreement.

On June 1, 2016, the Company agreed to issue to each Founder a 10-year stock options to purchase 33,105 shares of the Company’s common stock at an exercise price of \$2.05 per share as an adjustment to the Professional Services Agreements with each of the Founders dated January 8, 2016.

On December 13, 2016, the Company provided written notice to each of the Founders that it was terminating the Agreements for cause, indicating that absent cure of the material breach of the Agreements, termination of the Agreements was to be effective on January 12, 2017. Despite lengthy discussions with the Founders, and multiple extensions of the termination date to accommodate such discussions, the Company was unable to resolve the outstanding issues under the Agreements, and the Company provided notice that the Agreements were terminated, effective April 8, 2017. Any shares subject to the stock options issued under the Agreements that were not vested on the date the Agreements terminated shall be forfeited on the date of termination. Our policy is to account for forfeitures when they occur; therefore these forfeitures are recorded as a reversal to expense. Forfeiture reversals related to the termination of the Agreements was \$3,629,041 in research and development expense.

Dr. Soo and Dr. Wu resigned as directors of the Company effective April 13, 2017, and Dr. Ting resigned as a member of the Company’s Scientific Advisory Board on April 13, 2017. Each of the Advisors were involved in the founding of the Company. Our licensing agreement with UCLA is independent of the Founders’ services and remains unchanged as a result of the Founders resignation.

## **11. Subsequent Events**

The Company has evaluated subsequent events through August 7, 2017, the date which the consolidated financial statements were available to be issued. There were no additional subsequent events noted that would require adjustment to or disclosure in these consolidated financial statements.

**BONE BIOLOGICS CORPORATION**

**25,653,773 Shares of Common Stock**

**PROSPECTUS**

,2017

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## PART TWO

### INFORMATION NOT REQUIRED IN PROSPECTUS

#### Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth an estimate of the fees and expenses payable by us in connection with the registration of our securities offered hereby. All of such fees and expenses, except for the SEC Registration Fee, are estimated:

SEC Registration and Filing Fee	\$	10,859
Legal Fees and Expenses	\$	15,000
Accounting Fees and Expenses	\$	10,000
Printing Fees and Expenses	\$	-0-
Miscellaneous	\$	-0-
TOTAL	\$	35,859

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

##### *Current Officers and Directors of the Company*

Under Section 145 of the General Corporation Law of the State of Delaware, we may indemnify our directors and officers against liabilities they may incur in such capacities, including liabilities under the Securities Act. Our Amended and Restated Certificate of Incorporation provides that no director shall be personally liable to the us or our stockholders for monetary damages for any breach of fiduciary duty by such director as a director. This provision does not eliminate liability (i) for breach of the director's duty of loyalty to us or us stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) pursuant to Section 174 of the General Corporation Law of the State of Delaware or (iv) for any transaction from which the director derived an improper personal benefit. If the General Corporation Law of the State of Delaware is amended to authorize the further elimination or limitation of the liability of directors, then the liability of our directors, in addition to the limitation on personal liability provided herein, shall be limited to the fullest extent permitted by the amended DGCL.

Our Amended and Restated By-laws provide that we shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person, or a person for whom such person is the legal representative, is or was a director or officer of the corporation or, while a director or officer of the corporation, is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such indemnified person in such proceeding. We shall pay the expenses (including attorneys' fees) incurred by an indemnified person in defending any proceeding in advance of its final disposition; provided, however, that, to the extent required by law, such payment of expenses in advance of the final disposition of the proceeding shall be made only upon receipt of an undertaking by the indemnified person to repay all amounts advanced if it should be ultimately determined that the indemnified person is not entitled to be indemnified.



Our Amended and Restated By-laws provide that we may indemnify and advance expenses to any person who was or is made or is threatened to be made or is otherwise involved in any proceeding by reason of the fact that such person, or a person for whom such person is the legal representative, is or was an employee or agent of the corporation or, while an employee or agent of the corporation, is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorney's fees) reasonably incurred by such person in connection with such proceeding. We may pay the expenses (including attorney's fees) incurred by persons who are non-director or non-officer employees or agents in defending any proceeding in advance of its final disposition on such terms and conditions as may be determined by the Board of Directors.

We have been advised that in the opinion of the SEC, insofar as indemnification for liabilities arising under the Securities Act may be permitted to its directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable. In the event a claim for indemnification against such liabilities (other than the our payment of expenses incurred or paid by a director, officer or controlling person 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, we 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 of whether such indemnification by us is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

Our Board has approved an Indemnification Agreement for our directors and executive officers. Following Board approval, we entered into Indemnification Agreements with each of our current directors and executive officers. The Indemnification Agreement provides for indemnification against expenses, judgments, fines and penalties actually and reasonably incurred by an indemnitee in connection with threatened, pending or completed actions, suits or other proceedings, subject to certain limitations. The Indemnification Agreement also provides for the advancement of expenses in connection with a proceeding prior to a final, non-appealable judgment or other adjudication, provided that the indemnitee provides an undertaking to repay to us any amounts advanced if the indemnitee is ultimately found not to be entitled to indemnification by us. The Indemnification Agreement sets forth procedures for making and responding to a request for indemnification or advancement of expenses, as well as dispute resolution procedures that will apply to any dispute between us and an indemnitee arising under the Indemnification Agreement.

#### ***Former Officers and Directors of the Company***

Effective as of September 19, 2014, our Board of Directors also approved the Former D&O Indemnification Agreement to be entered into between us, Don Hankey and Amir Heshmatpour. The Former D&O Indemnification Agreement requires that for a period of four (4) years from and after September 19, 2014, we will indemnify (including advancement of expenses) and hold harmless persons who were officers and directors of the Company (i) by reason of being an officer or director of the Company prior to the Merger, including through all transactions relating to the Merger, or (ii) is related to acts in connection with the Merger taken by the Former D&O Indemnified Persons, provided however, that the foregoing indemnity shall be excess of all any insurance coverage available to the Former D&O Indemnified Parties for any such loss. The accuracy of the Hankey Affidavit and Heshmatpour Affidavit in connection with the Former D&O Indemnification is a condition precedent to the foregoing indemnity (including advancement of expenses). The Company has no insurance coverage that would cover any claim asserted against the Company by any Former D&O Indemnified Person pursuant to this Former D&O Indemnification Agreement.

## Item 15. Recent Sales of Unregistered Securities

On September 19, 2014, the MTF 2008 and 2009 Promissory Notes and any related loan agreements, credit agreements, guarantee agreements or other agreements related to the MTF 2008 and 2009 Promissory Notes were cancelled and Bone Biologics issued MTF a convertible promissory note in the face amount of \$3,659,328 (the "New MTF Convertible Note"). Pursuant to the terms of the New MTF Convertible Note, 50% of all principal and accrued and unpaid interest due under the New MTF Convertible Note will be converted into common stock of the Company upon the closing of the PIPE. The remainder of the New MTF Convertible Note, including all accrued and unpaid interest, will be converted upon consummation of the Initial Public Offering.

Upon consummation of the merger, the 2008 January Convertible Note was converted into 1,533,356 shares of common stock of the Company. Upon consummation of the merger, MTF also converted all their outstanding Series A and B Preferred Stock, 5,829,438 shares, into common stock.

In April 2013 and June 2013, Bone Biologics sold convertible promissory notes of \$100,000 to MTF and \$100,000 to Orthofix, Inc. under the Bridge Financing, and in October 2013 Bone Biologics sold an additional promissory note of \$150,000 to Orthofix, Inc. The convertible promissory notes were issued with a one year term and accrued interest at a rate of 12% per year and payable quarterly. A warrant to purchase shares of Bone Biologics' common stock equal to 50% of the original principal amount divided by \$1.00 was issued to the holders of the Bridge Notes. Principal and unpaid accrued interest may be converted into equity securities issued in Bone Biologics' next equity financing in an aggregate amount of at least \$2.5 million at a price equal to the price paid by investors in the next equity financing or in the event Bone consummates its first underwritten public offering. AFH Advisory purchased \$50,000 of the Bridge Notes and Bridge Warrants which was contingent upon liquidation of the securities transferred to Bone Biologics by AFH Advisory, and subject to adjustment, as described in that certain Letter Agreement, dated September 26, 2013, by and between Amir F. Heshmatpour and Bone Biologics. In June 2014, the note held by MTF under the April Bridge Financing was amended to extend the maturity date to October 14, 2014. Upon consummation of the merger, the bridge notes converted into 455,974 shares of common stock.

In May, 2014, the Company entered into a convertible promissory note with MTF (the "2014 Note") for \$250,000 with interest at 7% per annum compounded annually and a maturity date of June 15, 2015. In the event of a financing of not less than \$1 million, the 2014 Note automatically converts into Equity Securities, as defined in the 2014 Note, at a 25% discount to the price paid per share in such financing. In connection with the 2014 Note, the Company issued a warrant to purchase 166,667 shares of the Company's common stock at an exercise price of \$1.50 per share and 4 year term. The Company accrued placement agent fees of \$10,000 or 4% of the funds raised in connection with the financing and is obligated to issue a warrant for the purchase of 13,333 shares of common stock, which represents 4% of the common shares underlying the 2014 Note. In July 2014, the 2014 Note and related warrants were assigned to Orthofix and included in the Subsequent Orthofix Financing discussed below.

On July 1, 2014, Orthofix (A) purchased \$500,000 worth of Bone Biologics Common Stock; (B) was issued two convertible promissory notes, each in the principal amount of \$250,000 and exercisable for \$333,333 worth of Bone Biologics Common Stock; and (C) was issued two warrants, each exercisable for 166,667 shares of Bone Biologics Common Stock at an exercise price per share of \$1.50. Upon subscribing for the Subsequent Orthofix Shares, the Subsequent Orthofix Convertible Promissory Notes converted by their terms into a combined total of \$666,666 worth of shares of Bone Biologics' Common Stock in accordance with the terms of the Subsequent Orthofix Convertible Promissory Notes. The Subsequent Orthofix Warrants converted into warrants of the Company with substantially identical terms upon consummation of the Merger.

At the closing of the Subsequent Orthofix Shares and Notes, AFH Advisory was entitled to receive the Extra Warrants. Forefront or its designees will receive the Agent Warrant. Such Agent Warrant will be issued at the closing of the Private Placement and shall provide, among other things, that the Agent Warrant shall: (i) be exercisable at the price of the securities (or the exercise price of the Securities) issued to the investors in the Private Placement, (ii) expire 5 years from the date of issuance, (iii) include customary registration rights, including the registration rights provided to the Investors, (iv) contain provisions for cashless exercise, and (v) include such other terms that are normal and customary for similar warrants. In addition, upon the exercise of any common stock purchase warrants that the Company issues to investors in the Private Placement, the Company agrees to pay Forefront a warrant solicitation fee in an amount equal to 5% of the gross funds received by the Company from investors exercising such warrants. The warrant solicitation fee shall be paid at the time the warrants are exercised by such investors. Forefront was issued a warrant to purchase 46,667 shares of Common Stock at \$1.00 per share upon completion of the Orthofix Subsequent Financing. On October 24, 2014, Forefront was issued a warrant to purchase 126,582 shares of Common Stock upon completion of the Hankey Capital Convertible Note.

On July 11, 2014, Catherine Doll, Interim CFO, was granted warrants to purchase up to 12,625 shares of Common Stock of the Company at a strike price of \$0.00 per share, with a 4 year term.

On September 15, 2014, Bone and MTF entered into the MTF Short Term 2014 Loan pursuant to which MTF has agreed to advance an initial \$250,000 to Bone and, at Bone's request and subject to the terms and conditions of the MTF Short Term 2014 Loan, to advance up to an additional \$250,000 to Bone. The MTF Short Term 2014 Loan has an interest rate of eight and one-half percent (8.5%) accruing annually. The MTF Short Term 2014 Loan matures on the earlier to occur of (i) the date on which at least \$1 million is loaned to or invested in the Company and (ii) December 31, 2014. In further consideration of the MTF 2014 Loan, Bone granted to MTF 625,000 warrants at a strike price of \$1.62. The MTF 2014 Loan was assigned to the Company on September 19, 2014.

On September 19, 2014, the Company and its wholly-owned subsidiary, Bone Biologics Acquisition Corp. ("Merger Sub"), a Delaware corporation entered into an Agreement and Plan of Merger, dated September 19, 2014, by and among (i) the Company, (ii) Bone Biologics, Inc., and (iii) Merger Sub. Pursuant to the terms of the Merger Agreement, the Company issued of 19,897,587 shares of the its common stock, par value \$0.001 per share (including 2,151,926 shares of Common Stock issuable upon the exercise of outstanding warrants and 5,648,658 shares issuable upon the conversion of debt) to the stockholders of Bone Biologics, Inc.

On September 30, 2014, Catherine Doll, former Interim CFO, was granted warrants to purchase up to 89,588 shares of Common Stock of the Company at a strike price of \$1.00 per share, with a 5 year term.

On October 24, 2014, the Company issued a convertible promissory note in the amount of \$5,000,000 to Hankey Capital, LLC ("Hankey Capital"). The Convertible Note matures on October 24, 2017 and bears interest at an annual rate of interest of the "prime rate" plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company's Common Stock, at a conversion rate equal to the greater of (i) \$1.58 per share or (ii) 70% of the average daily price for the Common Stock as measured over the course of the 60 day period prior to the conversion.

The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50% (the "Collateral"). 6,329,114 shares were issued upon closing the lending. The number of shares in the Collateral shall be adjusted on a yearly basis. The shares representing the Collateral contain a restrictive legend. The Company shall seek to register the Collateral shares initially delivered on the date of the Convertible Note pursuant to the Registration Rights Agreement described below. Upon the effectiveness of such Registration Statement, the Company will remove the restrictive legends from the Collateral shares so long as Hankey Capital agrees in any event not to sell any Collateral shares if Hankey Capital is notified that the Registration Statement is no longer effective. Hankey Capital may hold the Collateral in any brokerage account of its choosing, but shall not transfer, sell or otherwise dispose of any Collateral, except during the existence of an Event of Default, as defined in the Convertible Note. The Convertible Note is further secured by collateral assignments of all the Company's license agreements. The principal amount of the loan is pre-payable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital will return Collateral shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all Collateral shares shall be returned return and cancelled. Hankey Capital will also return Collateral shares under the same terms in case of partial or full conversion of the Convertible Note. The Company paid a commitment fee in the amount of 3.0% of the original principal amount of the loan (\$150,000) to Hankey Capital. On October 24, 2014, the Company also issued a warrant to Hankey Capital for 3,955,697 shares of Common Stock at an exercise price per share of \$1.58. The Warrant was amended as of February 10, 2016 to extend the expiration date to October 24, 2019. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

On May 4, 2015, the Company issued a convertible promissory note in the amount of \$2,000,000 to Hankey Capital. The 2nd Convertible Note matures on May 4, 2018 and bears interest at an annual rate of interest of the “prime rate” plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s Common Stock, at a conversion rate equal to the greater of (i) \$1.58 per share or (ii) 70% of the average daily price for the Common Stock as measured over the course of the 60 day period prior to the conversion. The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50%. The number of shares in the Collateral shall be adjusted on a yearly basis. The Convertible Note is further secured by collateral assignments of all the Company’s license agreements. The principal amount of the loan is pre-payable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital shall return Collateral shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all the collateral shares shall be returned return and cancelled. Hankey Capital shall also return the collateral shares under the same terms in case of partial or full conversion of the Convertible Note. In connection with the Convertible Note, on May 4, 2015 the Company issued 2,531,646 common shares as collateral. The Company paid a commitment fee in the amount of \$60,000 (3% of the original principal amount of the loan) to Hankey Capital. On May 4, 2015, the Company also issued a warrant to Hankey Capital for 1,898,734 shares of Common Stock at an exercise price per share of \$1.58. The Warrant was amended as of February 10, 2016 to extend the expiration date to May 4, 2020. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

On August 11, 2015, the Company agreed to issue to each of AFH and MTF 867,163 shares of common stock in exchange for forfeiture of any claims to receive any Milestone Shares under the AFH/MTF Agreement.

On February 24, 2016, the Company issued a convertible promissory note in the amount of \$2,000,000 to Hankey Capital. The Convertible Note matures on February 23, 2019 (the “Maturity Date”) and bears interest at an annual rate of interest at the “prime rate” (as quoted in the “Money Rates” section of The Wall Street Journal) plus 4.0%, with a minimum rate of 8.5% per annum until maturity, with interest payable monthly in arrears. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert the Convertible Note into shares of the Company’s common stock (the “Conversion Shares”), at a conversion rate equal to \$1.58 per share. The Convertible Note is secured by certain collateral shares of Common Stock issued by the Company in the name of Hankey Capital, in such amount so as to maintain a loan to value ratio of no greater than 50%. The number of Collateral Shares will be adjusted on a yearly basis. The Convertible Note is further secured by all of the Company’s personal property, including collateral assignments of all the Company’s license agreements and the Option Agreement. The principal amount of the loan is prepayable in whole or in part at any time, without premium or penalty. Upon any voluntary partial prepayment of outstanding principal, Hankey Capital will return Collateral Shares to the Company in the amount necessary, if any, to maintain the loan to value ratio at no less than 50%. Upon a full payment of the outstanding principal, all Collateral Shares will be returned and cancelled. Hankey Capital will also return Collateral Shares under the same terms in case of partial or full conversion of the Convertible Note. In connection with the Convertible Note, on February 24, 2016 the Company issued 2,531,646 common shares as collateral, paid a commitment fee in the amount of \$40,000 (2% of the original principal amount of the Loan) and a warrant to Hankey Capital for 1,463,415 shares of Common Stock at an exercise price per share of \$2.05. The Warrant will expire on February 23, 2021. The Note and Warrant contain provisions limiting the exercise/conversion thereof.

In connection with the financing with Hankey Capital, Hankey Capital exercised warrants to purchase an aggregate of 791,139 shares resulting in gross proceeds to the Company of \$1,250,000, and the parties agreed to extend the maturity date of the first two convertible secured notes to December 31, 2019 and fix the conversion rate to \$1.58. The Company also agreed to extend the term of all outstanding warrants to five years from issuance.

The Company entered into a Letter Agreement effective October 2, 2015, with each of Dr. Chia Soo (who currently serves as a director of the Company), Dr. Eric Kang Ting and Dr. Ben Wu (who currently serves as a director of the Company) (collectively, the “Founders”). The Founders were three of the original shareholders of the Company. Pursuant to the Letter Agreement, the Founders agree to deliver to the Company all past work product and past data related to NELL-1 (the “Data”) for use by the Company in its sole discretion, within the applicable licensing rights granted under the UCLA license and in exchange the Company agreed to the future issuance of an aggregate of 1,153,846 shares of the Company’s common stock. The Shares are to be equally distributed between the Founders upon the earlier of (i) the third anniversary of the Agreement and (ii) the occurrence of a Liquidity Event (as defined in the Letter Agreement). The Letter Agreement also provides the Shares with certain piggyback registration rights upon the occurrence of an equity financing by the Company. The Letter Agreement related to past work product and past data and therefore will be expensed as research and development costs upon the effective date and recorded a liability to issue shares.

Effective January 8, 2016, the Company entered into separate Professional Services Agreements with each of the Founders. Pursuant to each of the Agreements, each Founder has agreed to provide certain services to the Company, including providing strategic advice and strategic introductions to the Company’s management team as well as specific services set forth on an Exhibit to each Agreement. The Agreements are substantially identical. In consideration for the services to be rendered under the applicable Agreement, each Founder is granted 10-year stock options (the “Options”) to purchase 1,800,364 shares of the Company’s common stock corresponding to 4% of the Company’s outstanding common stock, on a fully diluted basis, at an exercise price of \$1.59 per share. The shares subject to the Options will vest 25% on each of the first, second and third anniversary of the effective date and 12.5% on each of the fourth and fifth anniversary of the effective date. The options fully vest on a change of control of the Company, if the Company terminates the Agreement without cause or the Founder terminates the Agreement with cause. Additionally, beginning January 1, 2017, the Company will pay each Founder an annual consulting fee of \$200,000 in cash or, at the option of the Company, in shares of its common stock valued as provided in the Agreement.

On December 13, 2016, the Company provided written notice to each of the Founders that it was terminating the Agreements for cause, indicating that absent cure of the material breach of the Agreements, termination of the Agreements was to be effective on January 12, 2017. Despite lengthy discussions with the Founders, and multiple extensions of the termination date to accommodate such discussions, the Company was unable to resolve the outstanding issues under the Agreements, and the Company provided notice that the Agreements were terminated, effective April 8, 2017. Any shares subject to the stock options issued under the Agreements that were not vested on the date the Agreements terminated shall be forfeited on the date of termination.

Dr. Soo and Dr. Wu resigned as directors of the Company effective April 13, 2017, and Dr. Ting resigned as a member of the Company’s Scientific Advisory Board on April 13, 2017. Each of the Advisors were involved in the founding of the Company.

Pursuant to a letter agreement dated February 10, 2016, the Company agreed to issue a total of 1,260,255 shares of common stock of the Company to AFH. The Letter Agreement was entered into in connection with the AFH/MTF Agreement under which AFH and its affiliated entities, individuals or assignees (“AFH Group”) were entitled to 10% of the outstanding shares of common stock of the Company on a fully diluted basis (the “Share Adjustment”) after giving effect to an anticipated private placement of between \$8,000,000 and \$10,000,000 (the “PIPE”). In the Letter Agreement, the Company recognized that, at the time the AFH/MTF Agreement was entered into, it was not anticipated that certain events in addition to the PIPE would dilute directly or indirectly the interest of AFH Group as stockholders of the Company, including the Ninth Amendment to the UCLA License Agreement and the issuance of the Company’s Common Shares pursuant to the Professional Services Agreement with each of Dr. Chia Soo, Dr. Ben Wu, and Dr. Eric Ting discussed below. Accordingly, the Company agreed to issue the 1,260,255 shares in connection with the Share Adjustment.

Effective February 29, 2016, the Company sold to (a) MTF an aggregate of 731,707 shares of common stock of the Company at a price per share equal to \$2.05, and (b) Orthofix an aggregate of 487,804 shares of common stock of the Company at a price per share equal to \$2.05.

On June 1, 2016, the Company agreed (i) to issue to AFH 20,186 shares of common stock of the Company as an adjustment to the October 28, 2015 invoice and (ii) ) to issue 23,173 shares of common stock of the Company as an adjustment to the letter agreement dated February 10, 2016.

On June 24, 2016, the Company issued 700,000 of restricted Common Stock to MTF in connection with the exercise of the option granted to the Company by MTF to distribute the Sygnal product.

On October 14, 2016, pursuant to a Note Purchase Agreement, the Company issued to each of MTF and Hankey Capital a convertible promissory note in the amount of \$600,000 (each a "Convertible Note"). The Convertible Note matures on December 31, 2017 (the "Maturity Date") and bears interest at an annual rate of interest of 8.5% per annum until maturity. Prior to the Maturity Date, each of MTF and Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company's common stock (the "Conversion Shares"), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Notes will be required to convert their Convertible Notes into the same securities issued in such financing at the same price per share. In addition, if the Convertible Notes are not paid by the Maturity Date, they will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital's Convertible Note is secured by all of the Company's assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

On February 10, 2017 pursuant to a Note Purchase Agreement, the Company issued to each of MTF and Hankey Capital a convertible promissory note in the amount of \$1,000,000 (each a "Convertible Note"). The Convertible Note matures on December 31, 2017 (the "Maturity Date") and bears interest at an annual rate of interest of 8.5% until maturity. Prior to the Maturity Date, each of MTF and Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company's common stock (the "Conversion Shares"), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Notes will be required to convert their Convertible Notes into the same securities issued in such financing at the same price per share. Also, if the Convertible Notes are not paid by the Maturity Date, they will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital's Convertible Note is secured by all of the Company's assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

On August 18, 2017 pursuant to a Note Purchase Agreement, the Company issued to Hankey Capital a convertible promissory note in the amount of \$700,000 ("Convertible Note"). The Convertible Note matures on December 31, 2017 (the "Maturity Date") and bears interest at an annual rate of interest of 8.5% until maturity. Prior to the Maturity Date, Hankey Capital has a right, in its sole discretion, to convert their Convertible Note into shares of the Company's common stock (the "Conversion Shares"), at a conversion rate equal to \$1.00 per share. In the event of a financing resulting in gross proceeds of at least \$5,000,000, the holders of the Convertible Notes will be required to convert their Convertible Notes into the same securities issued in such financing at the same price per share. Also, if the Convertible Notes are not paid by the Maturity Date, they will be automatically converted in shares of Common Stock at a conversion price of \$1.00 per share. Hankey Capital's Convertible Note is secured by all of the Company's assets. The Company has granted piggyback registration rights with respect to the Conversion Shares.

Effective August 18, 2017, the Company sold to MTF an aggregate of 233,333 shares of common stock of the Company at a price per share equal to \$3.00.

The transactions described above were exempt from registration under Section 4(2) of the Securities Act and Rule 506 of Regulation D thereunder.

## Exhibit Index

<b>Exhibit No.</b>	<b>Description</b>
2.1	<a href="#"><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></a>
2.2	<a href="#"><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></a>
3.1(i)	<a href="#"><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></a>
3.1(ii)	<a href="#"><u>Amended and Restated Bylaws of Bone Biologics Corporation (incorporated herein by reference to Exhibit 3.1(ii) to current report on Form 8-K, File No. 000-53078, filed September 25, 2014)</u></a>
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- 4.12 [Bone Biologics Corporation July 2014 Warrant issued to Orthofix \(incorporated herein by reference to Exhibit 4.13 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)](#)
- 4.13 [Bone Biologics Corporation July 2014 Warrant issued to AFH \(incorporated herein by reference to Exhibit 4.14 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)](#)
- 4.14 [Bone Biologics Corporation Warrant issued to Catherine Doll \(incorporated herein by reference to Exhibit 4.15 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)](#)
- 4.15 [Bone Biologics Corporation Warrant issued to Forefront Capital Markets, LLC \(incorporated herein by reference to Exhibit 4.16 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)](#)
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- 4.17 [Form of Registration Rights Agreement, by and between Bone Biologics Corporation, AFH, HIC and MTF \(incorporated herein by reference to Exhibit 4.18 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)](#)
- 5.1 [Opinion of TroyGould PC \\*](#)
- 10.1 [Director Offer Letter, dated July 1, 2014, by and between Bruce Stroeve and Bone Biologics Corporation \(incorporated herein by reference to Exhibit 10.4 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\) +](#)
- 10.2 [Director Offer Letter, dated August 22, 2014, by and between John Booth and Bone Biologics Corporation \(incorporated herein by reference to Exhibit 10.5 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)+](#)
- 10.3 [Director Offer Letter, dated June 23, 2014, by and between Jimmy Delshad and Bone Biologics Corporation \(incorporated herein by reference to Exhibit 10.6 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)+](#)
- 10.4 [Management Consulting Agreement, dated September 19, 2014, by and between the Musculoskeletal Transplant Foundation, Inc. and Bone Biologics Corporation \(Bruce Stroeve\) \(incorporated herein by reference to Exhibit 10.10 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)+](#)
- 10.5 [Bone Biologics Corporation Convertible Secured Term Note issued to Hankey Capital, LLC on October 24, 2014 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed October 30, 2014\)](#)
- 10.6 [Bone Biologics Corporation Warrant issued to Hankey Capital, LLC on October 24, 2014 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed October 30, 2014\)](#)
- 10.7 [Registration Rights Agreement by and between Bone Biologics Corporation and Hankey Capital, LLC, dated October 24, 2014 \(incorporated herein by reference to Exhibit 10.3 to current report on Form 8-K, File No. 000-53078, filed October 30, 2014\)](#)
- 10.8 [Bone Biologics Corporation Convertible Secured Term Note issued to Hankey Capital, LLC on May 4, 2015 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed May 6, 2015\)](#)
- 10.9 [Bone Biologics Corporation Warrant issued to Hankey Capital, LLC on May 4, 2015 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed May 6, 2015\)](#)
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- 10.10 [Chief Executive Officer Employment agreement, dated June 8, 2015 by and between Bone Biologics Corporation and Stephen R. LaNeve \(incorporated herein by reference to Exhibit 10.1 to current report on Form 10-Q, File No. 000-53078, filed August 14, 2015\)+](#)
- 10.11 [Chief Operating Officer Employment agreement, dated June 8, 2015, by and between Bone Biologics Corporation and Jeffrey Frelick \(incorporated herein by reference to Exhibit 10.1 to current report on Form 10-Q, File No. 000-53078, filed August 14, 2015\)+](#)
- 10.12 [AFH Revised Milestone Side Letter Agreement, dated August 12, 2015, by and between AFH Holding & Advisory, LLC and Bone Biologics Corporation \(incorporated herein by reference to Exhibit 10.3 to current report on Form 10-Q, File No. 000-53078, filed August 14, 2015\)](#)
- 10.13 [Musculoskeletal Transplant Foundation Revised Milestone Side Letter Agreement, dated August 11, 2015, by and between Musculoskeletal Transplant Foundation and Bone Biologics Corporation \(incorporated herein by reference to Exhibit 10.4 to current report on Form 10-Q, File No. 000-53078, filed August 14, 2015\)](#)
- 10.14 [Letter Agreement, dated October 2, 2015, by and between the Company and the Founders \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed October 08, 2015\)](#)
- 10.15 [Chief Financial Officer full time Employment agreement, dated November 9, 2015, by and between Bone Biologics Corporation and Deina H. Walsh \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed November 13, 2015\)+](#)
- 10.16 [Independent Contractor Agreement, dated November 13, 2015, by and between the Company and Consultant \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed November 16, 2015\)](#)
- 10.17 [Bone Biologics Corporation Non-Employee Director Compensation Policy \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.18 [Amendment to Director Offer Letter by and between The Musculoskeletal Transplant Foundation and Bone Biologics Corporation and MTF Option Grant Package \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.19 [Bone Biologics Corporation 2015 Equity Incentive Plan \(incorporated herein by reference to Exhibit 10.3 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.20 [Form of Stock Award Grant Notice and Stock Award Agreement for the Bone Biologics Corporation 2015 Equity Incentive Plan \(incorporated herein by reference to Exhibit 10.4 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.21 [Form of Restricted Stock Unit Award \(incorporated herein by reference to Exhibit 10.5 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.22 [Form of Professional Services Agreement \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed January 11, 2016\)](#)
- 10.23 [AFH Letter of Intent dated May 6, 2014 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 16, 2016\)](#)
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- 10.24 [AFH Letter Agreement dated February 10, 2016 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed February 16, 2016\)](#)
- 10.25 [Stock Purchase Agreement with Musculoskeletal Transplant Foundation, Inc. dated as of February 22, 2016 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.26 [Stock Purchase Agreement with Orthofix, Inc. dated as of February 22, 2016 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.27 [Option Agreement for the Distribution and Supply of Sygnal™ dated as of February 24, 2016 \(incorporated herein by reference to Exhibit 10.3 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.28 [Bone Biologics Corporation Convertible Secured Term Note issued to Hankey Capital on February 24, 2016 \(incorporated herein by reference to Exhibit 10.4 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.29 [Bone Biologics Corporation Warrant issued to Hankey Capital on February 24, 2016 \(incorporated herein by reference to Exhibit 10.5 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.30 [Registration Rights Agreement between the Company and Hankey Capital dated as of February 24, 2016 \(incorporated herein by reference to Exhibit 10.6 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.31 [Separation Agreement, dated as of February 29, 2016, effective March 14, 2016 between the Company and William Jay Treat \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed March 15, 2016\)](#)
- 10.32 [Consulting Agreement dated as of April 6, 2006 between the Company and AFH \(incorporated by reference to Exhibit 10.1 to current report on Form 8-K filed on April 8, 2016\)](#)
- 10.33 [Amendment to Convertible Notes with The Musculoskeletal Transplant Foundation and Hankey Capital, LLC dated as of January 23, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed January 24, 2017\)](#)
- 10.34 [Note Purchase Agreement with The Musculoskeletal Transplant Foundation and Hankey Capital, LLC dated as of February 6, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 13, 2017\)](#)
- 10.35 [Bone Biologics Corporation Convertible Note issued to Hankey Capital on February 10, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 13, 2017\)](#)
- 10.36 [Bone Biologics Corporation Convertible Note issued to MTF on February 10, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 13, 2017\)](#)
- 10.37 [Bone Biologics Corporation Convertible Note issued to Hankey Capital on August 18, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed August 22, 2017\)](#)
- 10.38 [Stock Purchase Agreement with Musculoskeletal Transplant Foundation, Inc. dated as of August 18, 2017 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed August 22, 2017\)](#)
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- 10.39 [Amended and Restated Exclusive License Agreement, dated as of August 18, 2017, by and between the Company and The Regents of the University of California \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed August 23, 2017\)](#)
- 21.1 [Subsidiaries \(incorporated herein by reference to Exhibit 21.1 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)](#)
- 23.1 [Consent of Anton & Chia, LLP \\*](#)
- 23.2 [Consent of TroyGould PC \(included in Exhibit 5.1\)](#)
- 24.1 Power of Attorney (included on signature page of this Form 10-K)

\* Previously filed.

+ Designates management contracts and compensation plans.

## Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

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

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(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 Commission 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;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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

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

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the registrant undertakes that in a primary offering of securities of the 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 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 registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the 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 registrant or its securities provided by or on behalf of the registrant; and

(iv) Any other communication that is an offer in the offering made by the registrant to the purchaser.

(b) 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 Securities and Exchange Commission such indemnification is against public policy expressed in the 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 Act and will be governed by the final adjudication of such issue.

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Burlington, Commonwealth of Massachusetts on October 13, 2017.

### **BONE BIOLOGICS CORPORATION**

(Registrant)

By: /s/ STEPHEN LaNEVE

Name: Stephen LaNeve

Title: Chief Executive Officer

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Deina H. Walsh</u> Deina H. Walsh	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	October 13, 2017
<u>/s/ Bruce Stroever</u> Bruce Stroever	Director	October 13, 2017
<u>/s/ John Booth</u> John Booth	Director	October 13, 2017
<u>/s/ Jimmy Delshad</u> Jimmy Delshad	Director	October 13, 2017
<u>/s/ Bret Hankey</u> Bret Hankey	Director	October 13, 2017
<u>/s/ Stephen LaNeve</u> Stephen LaNeve	Director	October 13, 2017

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  - 10.5 [Bone Biologics Corporation Convertible Secured Term Note issued to Hankey Capital, LLC on October 24, 2014 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed October 30, 2014\)](#)
  - 10.6 [Bone Biologics Corporation Warrant issued to Hankey Capital, LLC on October 24, 2014 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed October 30, 2014\)](#)
  - 10.7 [Registration Rights Agreement by and between Bone Biologics Corporation and Hankey Capital, LLC, dated October 24, 2014 \(incorporated herein by reference to Exhibit 10.3 to current report on Form 8-K, File No. 000-53078, filed October 30, 2014\)](#)
  - 10.8 [Bone Biologics Corporation Convertible Secured Term Note issued to Hankey Capital, LLC on May 4, 2015 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed May 6, 2015\)](#)
  - 10.9 [Bone Biologics Corporation Warrant issued to Hankey Capital, LLC on May 4, 2015 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed May 6, 2015\)](#)
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- 10.10 [Chief Executive Officer Employment agreement, dated June 8, 2015 by and between Bone Biologics Corporation and Stephen R. LaNeve \(incorporated herein by reference to Exhibit 10.1 to current report on Form 10-Q, File No. 000-53078, filed August 14, 2015\)+](#)
- 10.11 [Chief Operating Officer Employment agreement, dated June 8, 2015, by and between Bone Biologics Corporation and Jeffrey Frelick \(incorporated herein by reference to Exhibit 10.1 to current report on Form 10-Q, File No. 000-53078, filed August 14, 2015\)+](#)
- 10.12 [AFH Revised Milestone Side Letter Agreement, dated August 12, 2015, by and between AFH Holding & Advisory, LLC and Bone Biologics Corporation \(incorporated herein by reference to Exhibit 10.3 to current report on Form 10-Q, File No. 000-53078, filed August 14, 2015\)](#)
- 10.13 [Musculoskeletal Transplant Foundation Revised Milestone Side Letter Agreement, dated August 11, 2015, by and between Musculoskeletal Transplant Foundation and Bone Biologics Corporation \(incorporated herein by reference to Exhibit 10.4 to current report on Form 10-Q, File No. 000-53078, filed August 14, 2015\)](#)
- 10.14 [Letter Agreement, dated October 2, 2015, by and between the Company and the Founders \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed October 08, 2015\)](#)
- 10.15 [Chief Financial Officer full time Employment agreement, dated November 9, 2015, by and between Bone Biologics Corporation and Deina H. Walsh \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed November 13, 2015\)+](#)
- 10.16 [Independent Contractor Agreement, dated November 13, 2015, by and between the Company and Consultant \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed November 16, 2015\)](#)
- 10.17 [Bone Biologics Corporation Non-Employee Director Compensation Policy \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.18 [Amendment to Director Offer Letter by and between The Musculoskeletal Transplant Foundation and Bone Biologics Corporation and MTF Option Grant Package \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.19 [Bone Biologics Corporation 2015 Equity Incentive Plan \(incorporated herein by reference to Exhibit 10.3 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.20 [Form of Stock Award Grant Notice and Stock Award Agreement for the Bone Biologics Corporation 2015 Equity Incentive Plan \(incorporated herein by reference to Exhibit 10.4 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.21 [Form of Restricted Stock Unit Award \(incorporated herein by reference to Exhibit 10.5 to current report on Form 8-K, File No. 000-53078, filed January 4, 2016\)](#)
- 10.22 [Form of Professional Services Agreement \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed January 11, 2016\)](#)
- 10.23 [AFH Letter of Intent dated May 6, 2014 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 16, 2016\)](#)
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- 10.24 [AFH Letter Agreement dated February 10, 2016 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed February 16, 2016\)](#)
- 10.25 [Stock Purchase Agreement with Musculoskeletal Transplant Foundation, Inc. dated as of February 22, 2016 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.26 [Stock Purchase Agreement with Orthofix, Inc. dated as of February 22, 2016 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.27 [Option Agreement for the Distribution and Supply of Sygnal™ dated as of February 24, 2016 \(incorporated herein by reference to Exhibit 10.3 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.28 [Bone Biologics Corporation Convertible Secured Term Note issued to Hankey Capital on February 24, 2016 \(incorporated herein by reference to Exhibit 10.4 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.29 [Bone Biologics Corporation Warrant issued to Hankey Capital on February 24, 2016 \(incorporated herein by reference to Exhibit 10.5 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.30 [Registration Rights Agreement between the Company and Hankey Capital dated as of February 24, 2016 \(incorporated herein by reference to Exhibit 10.6 to current report on Form 8-K, File No. 000-53078, filed February 26, 2016\)](#)
- 10.31 [Separation Agreement, dated as of February 29, 2016, effective March 14, 2016 between the Company and William Jay Treat \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed March 15, 2016\)](#)
- 10.32 [Consulting Agreement dated as of April 6, 2006 between the Company and AFH \(incorporated by reference to Exhibit 10.1 to current report on Form 8-K filed on April 8, 2016\)](#)
- 10.33 [Amendment to Convertible Notes with The Musculoskeletal Transplant Foundation and Hankey Capital, LLC dated as of January 23, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed January 24, 2017\)](#)
- 10.34 [Note Purchase Agreement with The Musculoskeletal Transplant Foundation and Hankey Capital, LLC dated as of February 6, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 13, 2017\)](#)
- 10.35 [Bone Biologics Corporation Convertible Note issued to Hankey Capital on February 10, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 13, 2017\)](#)
- 10.36 [Bone Biologics Corporation Convertible Note issued to MTF on February 10, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed February 13, 2017\)](#)
- 10.37 [Bone Biologics Corporation Convertible Note issued to Hankey Capital on August 18, 2017 \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed August 23, 2017\)](#)
- 10.38 [Stock Purchase Agreement with Musculoskeletal Transplant Foundation, Inc. dated as of August 18, 2017 \(incorporated herein by reference to Exhibit 10.2 to current report on Form 8-K, File No. 000-53078, filed August 23, 2017\)](#)
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- 10.39 [Amended and Restated Exclusive License Agreement, dated as of August 18, 2017, by and between the Company and The Regents of the University of California \(incorporated herein by reference to Exhibit 10.1 to current report on Form 8-K, File No. 000-53078, filed August 23, 2017\)](#)
- 21.1 [Subsidiaries \(incorporated herein by reference to Exhibit 21.1 to current report on Form 8-K, File No. 000-53078, filed September 25, 2014\)](#)
- 23.1 [Consent of Anton & Chia, LLP \\*](#)
- 23.2 [Consent of TroyGould PC \(included in Exhibit 5.1\)](#)
- 24.1 Power of Attorney (included on signature page of this Form 10-K)

\* Previously filed.

+ Designates management contracts and compensation plans.

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TroyGould PC  
1801 Century Park East  
Suite 1600  
Los Angeles, California 90067  
Telephone: (310) 553-4441  
Facsimile: (310\_201-4746

August 29, 2017

Bone Biologics Corporation  
2 Burlington Woods Drive, Ste 100,  
Burlington, MA 01803

Re: Bone Biologics Corporation – Registration Statement on Form S-1

Ladies and Gentlemen:

We have served as counsel to Bone Biologics Corporation a Delaware corporation (the “Company”), in connection with the Registration Statement on Form S-1 (the “Registration Statement”) being filed by the Company with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the “Securities Act”), relating to (i) the registration and resale by the selling security holders named in the Registration Statement of an aggregate of 25,653,773 shares of the Company’s common stock, par value \$0.0001 per share (the “Common Stock”). The shares of Common Stock covered by the Registration Statement include: (i) 12,628,316 shares of Common Stock held by certain selling stockholders and 5,696,203 shares which have been issued in connection with the possible conversion of certain convertible promissory notes (collectively the “Common Shares”) and, (ii) 7,329,254 shares of Common Stock issuable upon the exercise of outstanding warrants (the “Warrant Shares”).

In rendering the opinions expressed below, we have examined originals, or copies of originals certified or otherwise identified to our satisfaction, of such records of the Company and of such agreements, documents, certificates, statements of governmental officials and instruments and have examined such questions of law and have satisfied ourselves as to such matters of fact as we have considered relevant and necessary as a basis for this letter. We have assumed the authenticity of all documents submitted to us as originals, the genuineness of all signatures, the legal capacity of all natural persons and the conformity with the original documents of any copies thereof submitted to us for our examination.

Based on, and subject to the foregoing and the other limitations, qualifications, exceptions and assumptions set forth herein, we are of the opinion that: (i) the Common Shares are validly issued, fully paid and non-assessable and (ii) the Warrant Shares when issued in accordance with the terms of their respective warrants, will be validly issued, fully paid and non-assessable.

This letter is limited to the laws of the state of Delaware and federal laws of the United States of America. We express no opinion as to matters related to securities or “blue sky” laws of any jurisdiction or any rules or regulations thereunder (other than the federal laws of the United States of America).

The opinions set forth herein are given as of the date hereof, and we undertake no obligation to update or supplement this letter if any applicable law changes after the date hereof or if we become aware of any fact or other circumstances that changes or may change any opinion set forth herein after the date hereof or for any other reason.

We hereby consent to the filing of this letter as an Exhibit to the Registration Statement and to all references to our firm included in or made a part of the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules or regulations promulgated thereunder.

Very truly yours,

*/s/ TROYGOULD PC*

TroyGould PC

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CERTIFIED PUBLIC ACCOUNTANTS

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors of

Bone Biologics Corporation

We consent to the inclusion in the foregoing Registration Statement of Bone Biologics Corporation (the “Company”) on Amendment No.1, to Form S-1 of our report dated March 30, 2017, relating to our audits of the consolidated balance sheets as of December 31, 2016 and 2015, and consolidated statements of operations, stockholders’ deficit and cash flows for the years ended December 31, 2016 and 2015. Our report dated March 30, 2017, related to these financial statements, included an emphasis paragraph regarding an uncertainty as to the Company’s ability to continue as a going concern.

We also consent to the reference to us under the caption “Experts” in the Registration Statement.

*/s/ Anton & Chia, LLP*

\_\_\_\_\_  
Newport Beach

September 7, 2017

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