
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K
CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934

Date of Report (Date of earliest event reported): July 3, 2015

Xenetic Bioscience, Inc.
(Exact name of registrant as specified in its charter)

Nevada
(State or other jurisdiction of incorporation)

333-178082
(Commission File Number)

45-295962
(I.R.S. Employer Identification No.)

99 Hayden Ave, Suite 230
Lexington, MA
(Address of principal executive offices)

02421
(Zip Code)

Registrant's telephone number, including area code: 781-778-7720

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Section 8 – Other Events

Item 8.01 Other Events

On July 3, 2015, we completed a \$3 million Bridge Note financing with OJSC Pharmsynthez. The financing involved our issuance of a 10% senior secured convertible promissory note and a common stock purchase warrant to Pharmsynthez, an affiliate of our largest shareholder. The arrangement was made directly between our management and Pharmsynthez. The Note, dated July 1, 2015, is convertible, in whole or in part, into shares of our common stock at the option of Pharmsynthez at a price of \$0.15. The stock purchase warrant provides Pharmsynthez the ability to purchase an additional 10 million shares of our common stock at a price of \$0.20 for a period of 5 years beginning on January 1, 2016.

The foregoing is a brief summary of the terms of the Securities Purchase Agreement, Note and Warrant issued to Pharmsynthez. It is not a complete description of all their terms of those agreement or other related documents in this transaction. The full text of the key documents related to this Bridge Financing are attached hereto as Exhibits 10.1 through 10.7, should be reviewed in their entirety for further information.

A copy of the Press Release issued on July 8, 2015 is attached hereto as Exhibit 99.1.

Section 9 – Financial Statements and Exhibits

Item 9.01 Financial Statements and Exhibits

Exhibit No.	Description
10.1	Securities Purchase Agreement
10.2	Ten Percent Senior Secured Collateralized Convertible Promissory Note, dated July 1, 2015
10.3	Registration Rights Agreement
10.4	Security Agreement
10.5	Subsidiary Guarantee
10.6	Common Stock Purchase Warrant
10.7	Form of Assignment and Assumption Agreement
99.1	Press Release

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Xenetic Biosciences, Inc.

/s/ Michael Scott Maguire

Michael Scott Maguire

Chief Executive Officer

Date: July 8, 2015

SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this "Agreement") is dated as of May ___, 2015 between Xenetic Biosciences, Inc., a Nevada corporation (the "Company"), and the purchaser identified on the signature pages hereto (the "Purchaser").

WHEREAS, subject to the terms and conditions set forth in this Agreement and pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended (the "Securities Act"), and Rule 506 promulgated thereunder, the Company desires to issue and sell to the Purchaser, and the Purchaser desires to purchase from the Company, securities of the Company as more fully described in this Agreement.

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and the Purchaser agree as follows:

ARTICLE I. DEFINITIONS

1.1 Definitions. In addition to the terms defined elsewhere in this Agreement: (a) capitalized terms that are not otherwise defined herein have the meanings given to such terms in the Note (as defined herein), and (b) the following terms have the meanings set forth in this Section 1.1:

"Acquiring Person" shall have the meaning ascribed to such term in Section 4.7. "Action" shall have the meaning ascribed to such term in Section 3.1(j).

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

"Board of Directors" means the board of directors of the Company.

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

"Closing Dates" means the Trading Day(s) on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto in connection with a Closing, and all conditions precedent to (i) the Purchaser's obligations to pay the Subscription Amount as to such Closing and (ii) the Company's obligations to deliver the Securities as to such Closing, in each case, have been satisfied or waived.

"Closing(s)" means the one or more closings of the purchase and sale of the Securities pursuant to Section 2.2.

"Closing Statement" means the Closing Statement in the form on Annex A attached hereto.

"Commission" means the United States Securities and Exchange Commission.

"Common Stock" means the common stock of the Company, par value \$0.01 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

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

"Company Counsel" means Person, who will be nominated by Company as counsel.

"Conversion Price" shall have the meaning ascribed to such term in the Note.

"Conversion Shares" means the shares of Common Stock issued and issuable upon conversion or redemption of the Note and issued and issuable in lieu of the cash payment of interest on the Note in accordance with the terms of the Note.

"Disclosure Schedules" shall have the meaning ascribed to such term in Section 3.1.

"Evaluation Date" shall have the meaning ascribed to such term in Section 3.1(r).

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

"Exempt Issuance" means the issuance of (a) shares of Common Stock or options to employees, officers or directors of the Company pursuant to any stock or option plan duly adopted for such purpose by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose, (b) securities upon the exercise of or exchange of or conversion of any Securities issued hereunder and/or other securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities, (c) shares issued pursuant to any equipment loan or leasing arrangement, real property leasing arrangement or debt financing from a bank or similar institution approved by a majority of the disinterested directors of the Company, (d) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, and (e) shares with respect to which the holders of a majority of the outstanding Note waive their anti-dilution rights, provided that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

"FCPA" means the Foreign Corrupt Practices Act of 1977, as amended. "GAAP" shall have the meaning ascribed to such term in Section 3.1(h).

"Holder" or "Holders" means the holder or holders, as the case may be, from time to time of Registrable Securities.

"Indebtedness" shall have the meaning ascribed to such term in Section 3.1(aa).

"Intellectual Property Rights" shall have the meaning ascribed to such term in Section 3.1(o).

"Legend Removal Date" shall have the meaning ascribed to such term in Section 4.1(c).

"Liens" means a lien, charge, pledge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

"Material Adverse Effect" shall have the meaning assigned to such term in Section 3.1(b).

"Material Permits" shall have the meaning ascribed to such term in Section 3.1(m).

"Maximum Rate" shall have the meaning ascribed to such term in Section 5.17.

"Note" means the Ten Percent (10%) Senior Secured Collateralized Convertible Promissory Note due, subject to the terms therein, twelve (12) months from its date of issuance, issued by the Company to the Purchaser hereunder, in the form of Exhibit A attached hereto.

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

"Principal Amount" means, as to the Purchaser, the amount set forth below the Purchaser's signature block on the signature pages hereto next to the heading "Subscription Amount/Principal Amount," in United States Dollars, which shall equal the Purchaser's Subscription Amount as to the Closing.

"Proceeding" means an action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition), whether commenced or threatened.

"Public Information Failure" shall have the meaning ascribed to such term in Section 4.3(b).

"Public Information Failure Payments" shall have the meaning ascribed to such term in Section 4.3(b).

"Public Offering Price" shall mean the most recent price at which Common Stock or Common Stock Equivalents were sold in a Public Offering (as defined in Section 2.5).

"Purchaser Party" shall have the meaning ascribed to such term in Section 4.10.

"Registrable Securities" means, as of any date of determination, (a) all of the shares of Common Stock then issued and issuable upon conversion in full of the Note (assuming on such date the Note are converted in full without regard to any conversion limitations therein), (b) all shares of Common Stock issued and issuable as interest or principal on the Note assuming all permissible interest and principal payments are made in shares of Common Stock and the Note is held until maturity, (c) all of the Warrant Shares then issued and issuable upon exercise of the Warrants (assuming on such date the Warrants are exercised in full without regard to any exercise limitations therein), (d) any additional shares of Common Stock issued and issuable in connection with any anti-dilution provisions in the Note or the Warrants (in each case, without giving effect to any limitations on conversion set forth in the Note or limitations on exercise set forth in the Warrants) and (e) any securities issued or then issuable upon any stock split, dividend or other distribution, recapitalization or similar event with respect to the foregoing; provided, however, that any such Registrable Securities shall cease to be Registrable Securities (and the Company shall not be required to maintain the effectiveness of any, or file another, Registration Statement hereunder with respect thereto) for so long as (a) a Registration Statement with respect to the sale of such Registrable Securities is declared effective by the Commission under the Securities Act and such Registrable Securities have been disposed of by the Holder in accordance with such effective Registration Statement, (b) such Registrable Securities have been previously sold in accordance with Rule 144, or (c) such securities become eligible for resale without volume or manner-of-sale restrictions and without current public information pursuant to Rule 144 as set forth in a written opinion letter to such effect, addressed, delivered and acceptable to the Transfer Agent and the affected Holders (assuming that such securities and any securities issuable upon exercise, conversion or exchange of which, or as a dividend upon which, such securities were issued or are issuable, were at no time held by any Affiliate of the Company), as reasonably determined by the Company, upon the advice of counsel to the Company.

"Registration Rights Agreement" means the Registration Rights Agreement, dated the date hereof, among the Company and the Purchaser, in the form of Exhibit B attached hereto.

"Registration Statement" means a registration statement meeting the requirements set forth in the Registration Rights Agreement and covering the resale of the Underlying Shares by the Purchaser as provided for in the Registration Rights Agreement.

"Required Approvals" shall have the meaning ascribed to such term in Section 3.1(e).

"Required Minimum" means, as of any date, the maximum aggregate number of shares of Common Stock then issued or potentially issuable in the future pursuant to the Transaction Documents, including any Underlying Shares issuable upon conversion in full of all Notes (including Underlying Shares issuable as payment of interest on the Note) and upon exercise in full of all Warrants (including any additional Warrants issuable pursuant to Sections 2.1 or 2.5 hereof), ignoring any conversion or exercise limits set forth therein, and assuming that the Conversion Price is at all times on and after the date of determination 100% of the then Conversion Price on the Trading Day immediately prior to the date of determination.

"Rule 144" means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same effect as such Rule.

"Rule 424" means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

"SEC Reports" shall have the meaning ascribed to such term in Section 3.1(h). "Securities" means the Note, the Warrant, and the Underlying Shares.

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

"Securities Effective Date" means the earliest of the date that (a) the initial Registration Statement has been declared effective by the Commission, (b) all of the Registrable Securities have been sold pursuant to Rule 144 or may be sold pursuant to Rule 144 without the requirement for the Company to be in compliance with the current public information required under Rule 144 and without volume or manner-of-sale restrictions or (c) following the one year anniversary of the Closing Date provided that a holder of Registrable Securities is not an Affiliate of the Company, all of the Registrable Securities may be sold pursuant to an exemption from registration under Section 4(1) of the Securities Act without volume or manner-of-sale restrictions and Company counsel has delivered to such holders a standing written unqualified opinion that resales may then be made by such holders of the Registrable Securities pursuant to such exemption which opinion shall be in form and substance reasonably acceptable to such holders.

"Security Agreement" means the Security Agreement, dated the date hereof, among the Company and the Purchaser, in the form of Exhibit E attached hereto.

"Security Documents" shall mean the Security Agreement, the Subsidiary Guarantee, and any other documents and filing required thereunder in order to grant the Purchaser a first priority security interest in the assets of the Company and the Subsidiaries as provided in the Security Agreement, including all UCC-1 filing receipts.

"Short Sales" means all "short sales" as defined in Rule 200 of Regulation SHO under the Exchange Act.

"Subscription Amount" means, as to the Purchaser, the aggregate amount to be paid for the Note and Warrant purchased hereunder as specified below the Purchaser's name on the signature page of this Agreement and next to the heading "Subscription Amount/Principal Amount," in United States dollars and in immediately available funds.

"Subsidiary" means any subsidiary of the Company as set forth on Schedule 3.1(a) and shall, where applicable, also include any direct or indirect subsidiary of the Company formed or acquired after the date hereof.

"Subsidiary Guarantee" means the Subsidiary Guarantee, dated the date hereof, by each Subsidiary in favor of the Purchaser, in the form of Exhibit F attached hereto.

"Trading Day" means a day on which the principal Trading Market is open for trading.

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

"Transaction Documents" means this Agreement, the Note, the Registration Rights Agreement, the Security Agreement, the Subsidiary Guarantee, the Warrant, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated hereunder.

"Transfer Agent" means Empire Stock Transfer the current transfer agent of the Company, with a mailing address 1859 Whitney Mesa Dr., Henderson NV, 89014 and a facsimile number of (702) 974-1444 and any successor transfer agent of the Company.

"Transfer Agent Instruction Letter" means the letter from the Company to the Transfer Agent which instructs the Transfer Agent to issue Underlying Shares pursuant to the Transaction Documents, in the form of Exhibit D attached hereto.

"Underlying Shares" means the Conversion Shares and the Warrant Shares.

"VWAP" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTC Bulletin Board is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported in the "Pink Sheets" published by Pink OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Purchaser and consented to by the Company with such consent not to be unreasonably withheld by the Company, the fees and expenses of which shall be paid by the Company.

"Warrant" means the Common Stock Purchase Warrant, with a five (5) year term and subject to cashless exercise, and having an exercise price equal to the lesser of: (i) \$0.20 and (ii) 120% of the Public Offering Price, subject to adjustment, issued by the Company to the Purchaser hereunder, in the form of Exhibit G attached hereto, and any additional warrants issuable pursuant to Sections 2.1 or 2.5 hereof, as applicable.

"Warrant Shares" means the shares of Common Stock issued and issuable upon exercise of the Warrant and in accordance with the terms of the Warrant, including and shares issuable upon exercise of any additional warrants issued or issuable pursuant to Sections 2.1 or 2.5 hereof.

ARTICLE II.

PURCHASE AND SALE

2.1 Purchase. The Purchaser will purchase an aggregate of a minimum of \$3,000,000 in Subscription Amount, corresponding to the aggregate in Principal Amount of the Note. Additionally, along with each Note, the Purchaser shall be entitled to a Warrant to purchase [50% of the Note amount] shares of the Company's common stock. The Warrant granted shall be in the form and on the terms as attached hereto as Exhibit G. In the event that a Purchaser's Note remains outstanding after six (6) months from the date of issuance, the Purchaser shall be granted an additional Warrant to purchase [additional 50% of the Note amount] shares of the Company's common stock. The Warrants granted shall be in the form and on the terms as attached hereto as Exhibit G.

2.2 Closing. On the Closing Date, upon the terms and subject to the conditions set forth herein, substantially concurrent with the execution and delivery of this Agreement by the parties hereto, the Company agrees to sell, and the Purchaser agrees to purchase, the Purchaser's Closing Subscription Amount as set forth on the signature page hereto executed by the Purchaser. At the Closing, the Purchaser shall deliver to the Company, via wire transfer or a certified check, immediately available funds equal to the Purchaser's Subscription Amount as set forth on the signature page hereto executed by the Purchaser, and the Company shall deliver to the Purchaser its Note and Warrant, and the Company and the Purchaser shall deliver the other items set forth in Section 2.3 deliverable at such Closing. Upon satisfaction of the covenants and conditions set forth in Sections 2.3 and 2.4 for the Closing, the Closing shall occur at the offices of Covington & Burling LLP or such other location as the parties shall mutually agree.

2.3 Deliveries.

(a) On or prior to the Closing Date (except as noted), the Company shall deliver or cause to be delivered to the Purchaser the following:

(i) this Agreement duly executed by the Company;

(ii) a legal opinion of Company Counsel, substantially in the form of Exhibit C attached hereto;

(iii) the Transfer Agent Instruction Letter duly executed by the Company and the Transfer Agent;

(iv) the Note with a principal amount equal to the Purchaser's Principal Amount as to the Closing, registered in the name of the Purchaser; and

(v) the Security Agreement, duly executed by the Company and each Subsidiary, along with all of the Security Documents, including the Subsidiary Guarantee, duly executed by the parties thereto;

(vi) the Registration Rights Agreement duly executed by the Company;

(vii) the Warrants; and

(b) On or prior to the Closing Date, the Purchaser shall deliver or cause to be delivered to the Company, as applicable, the following:

(i) this Agreement duly executed by the Purchaser;

(ii) the Purchaser's Subscription Amount as to the Closing by wire transfer to the account specified in writing by the Company;

(iii) the Security Agreement duly executed by the Purchaser;

(iv) the Registration Rights Agreement duly executed by the Purchaser; and

(v) a fully filled in investor questionnaire as attached hereto as Exhibit H.

2.4 Closing Conditions.

(a) The obligations of the Company hereunder in connection with the Closing are subject to the following conditions being met:

(i) the accuracy in all material respects on the Closing Date of the representations and warranties of the Purchaser contained herein and information provided in the investor questionnaire (unless as of a specific date therein in which case they shall be accurate as of such date);

(ii) all obligations, covenants and agreements of the Purchaser required to be performed at or prior to the Closing Date shall have been performed; and

(iii) the delivery by the Purchaser of the items set forth in Section 2.3(b) of this Agreement.

(b) The obligations of the Purchaser hereunder in connection with the Closing are subject to the following conditions being met:

(i) the accuracy in all material respects when made and on the Closing Date of the representations and warranties of the Company contained herein (unless as of a specific date therein);

(ii) all obligations, covenants and agreements of the Company required to be performed at or prior to the Closing Date shall have been performed;

(iii) the delivery by the Company of the items set forth in Section 2.3(a) of this Agreement;

(iv) there is no existing Event of Default (as defined in the Note) and no existing event which, with the passage of time or the giving of notice, would constitute an Event of Default;

(v) the Company shall be fully current on all SEC filings and reports and there shall be no adverse proceeding initiated, ongoing, or threatened by any governmental or regulatory body.

(vi) there shall have been no Material Adverse Effect (as defined in Section 3.1(b) hereof) with respect to the Company since the date hereof;

(vii) the Company must have complied with SEC Reports and filings as described in Section 3.1(h); and

(viii) from the date hereof to the Closing Date, trading in the Common Stock shall not have been suspended by the Commission or the Company's principal Trading Market and, at any time prior to the Closing Date, trading in securities generally as reported by Bloomberg L.P. shall not have been suspended or limited, or minimum prices shall not have been established on securities whose trades are reported by such service, or on any Trading Market, nor shall a banking moratorium have been declared either by the United States or New York State authorities nor shall there have occurred any material outbreak or escalation of hostilities or other national or international calamity of such magnitude in its effect on, or any material adverse change in, any financial market which, in each case, in the reasonable judgment of the Purchaser, makes it impracticable or inadvisable to purchase the Securities at the Closing.

2.5 Warrant Coverage. In addition to the warrant coverage described in Section 2.1, in the event that a public offering is consummated while the Note is outstanding (the "Public Offering") that results in the Company obtaining financing of seven million dollars (\$7,000,000) or greater, and such Public Offering provides greater warrant coverage than provided hereby, then the Purchaser shall be granted additional Warrants such that the Purchaser is covered, relative to the Subscription Amount, on a percentage basis that equals the warrant coverage provided in the Public Offering relative to the gross offering price.

ARTICLE III.

REPRESENTATIONS AND WARRANTIES

3.1 Representations and Warranties of the Company. Except as set forth in the Disclosure Schedules, which Disclosure Schedules shall be deemed a part hereof and shall qualify any representation or otherwise made herein to the extent of the disclosure contained in the corresponding section of the Disclosure Schedules, the Company hereby makes the following representations and warranties to the Purchaser:

(a) Subsidiaries. All of the direct and indirect subsidiaries of the Company are set forth on Schedule 3.1(a). The Company owns, directly or indirectly, all of the capital stock or other equity interests of each Subsidiary free and clear of any Liens, and all of the issued and outstanding shares of capital stock of each Subsidiary are validly issued and are fully paid, non-assessable and free of preemptive and similar rights to subscribe for or purchase securities.

(b) Organization and Qualification. The Company and each of the Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation nor default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and the Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, could not have or reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of any Transaction Document; (ii) a material adverse effect on the results of operations, assets, business, prospects or condition (financial or otherwise) of the Company and the Subsidiaries, taken as a whole; or (iii) a material adverse effect on the Company's ability to perform in any material respect on a timely basis its obligations under any Transaction Document (any of (i), (ii) or (iii), a "Material Adverse Effect") and no Proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

(c) Authorization: Enforcement. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Agreement and each of the other Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of this Agreement and each of the other Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby have been duly authorized by all necessary action on the part of the Company and no further action is required by the Company, the Board of Directors or the Company's stockholders in connection herewith or therewith other than in connection with the Required Approvals. This Agreement and each other Transaction Document to which it is a party has been (or upon delivery will have been) duly executed by the Company and, when delivered in accordance with the terms hereof and thereof, will constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except: (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

(d) No Conflicts. The execution, delivery and performance by the Company of this Agreement and the other Transaction Documents to which it is a party, the issuance and sale of the Securities and the consummation by it of the transactions contemplated hereby and thereby do not and will not: (i) conflict with or violate any provision of the Company's or any Subsidiary's certificate or articles of incorporation, bylaws or other organizational or charter documents; (ii) conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, result in the creation of any Lien upon any of the properties or assets of the Company or any Subsidiary, or give to others any rights of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) of, any agreement, credit facility, debt or other instrument (evidencing a Company or Subsidiary debt or otherwise) or other understanding to which the Company or any Subsidiary is a party or by which any property or asset of the Company or any Subsidiary is bound or affected; or (iii) subject to the Required Approvals, conflict with or result in a violation of any law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority to which the Company or a Subsidiary is subject (including federal and state securities laws and regulations), or by which any property or asset of the Company or a Subsidiary is bound or affected; except in the case of each of clauses (ii) and (iii), such as could not have or reasonably be expected to result in a Material Adverse Effect.

(e) Filings, Consents and Approvals. The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than: (i) the filings required pursuant to Section 4.6 of this Agreement, (ii) the filing with the Commission pursuant to the Registration Rights Agreement, (iii) the notice and/or application(s) to each applicable Trading Market for the issuance and sale of the Securities and the listing of the Conversion Shares for trading thereon in the time and manner required thereby and (iv) the filing of Form D with the Commission and such filings as are required to be made under applicable state securities laws (collectively, the "Required Approvals").

(f) Issuance of the Securities. The Securities, including any additional Warrants issuable pursuant to Sections 2.1 or 2.5 hereof, are duly authorized and, when issued and paid for in accordance with the applicable Transaction Documents, will be duly and validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company other than restrictions on transfer provided for in the Transaction Documents. The Underlying Shares, when issued in accordance with the terms of the Transaction Documents, will be validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company other than restrictions on transfer provided for in the Transaction Documents. The Company has reserved from its duly authorized capital stock a number of shares of Common Stock for issuance of the Underlying Shares and at least equal to 200% of the Required Minimum on the date hereof.

(g) Capitalization. The capitalization of the Company is as set forth on Schedule 3.1(g), which Schedule 3.1(2) shall also include the number of shares of Common Stock owned beneficially, and of record, by Affiliates of the Company as of the date hereof. Except as set forth on Schedule 3.1(g), the Company has not issued any capital stock since its most recently filed periodic report under the Exchange Act, other than pursuant to the exercise of employee stock options under the Company's stock option plans, the issuance of shares of Common Stock to employees pursuant to the Company's employee stock purchase plans and pursuant to the conversion and/or exercise of Common Stock Equivalents outstanding as of the date of the most recently filed periodic report under the Exchange Act. No Person has any right of first refusal, preemptive right, right of participation, or any similar right to participate in the transactions contemplated by the Transaction Documents. Except as set forth in Schedule 3.1(g) and as a result of the purchase and sale of the Securities, there are no outstanding options, warrants, scrip rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities, rights or obligations convertible into or exercisable or exchangeable for, or giving any Person any right to subscribe for or acquire any shares of Common Stock, or contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to issue additional shares of Common Stock or Common Stock Equivalents. The issuance and sale of the Securities will not obligate the Company to issue shares of Common Stock or other securities to any Person (other than the Purchaser) and will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under any of such securities. All of the outstanding shares of capital stock of the Company are duly authorized, validly issued, fully paid and nonassessable, have been issued in compliance with all federal and state securities laws, and none of such outstanding shares was issued in violation of any preemptive rights or similar rights to subscribe for or purchase securities. No further approval or authorization of any stockholder, the Board of Directors or others is required for the issuance and sale of the Securities. There are no stockholders agreements, voting agreements or other similar agreements with respect to the Company's capital stock to which the Company is a party or, to the knowledge of the Company, between or among any of the Company's stockholders.

(h) SEC Reports; Financial Statements. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the two years preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, being collectively referred to herein as the "SEC Reports") on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Reports prior to the expiration of any such extension. As of their respective dates, the SEC Reports complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable, and none of the SEC Reports, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Company has never been an issuer subject to Rule 144(i) under the Securities Act. The financial statements of the Company included in the SEC Reports comply in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved ("GAAP"), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments.

(i) Material Chances; Undisclosed Events, Liabilities or Developments. Since the date of the latest audited financial statements included within the SEC Reports, except as specifically disclosed in a subsequent SEC Report filed prior to the date hereof: (i) there has been no event, occurrence or development that has had or that could reasonably be expected to result in a Material Adverse Effect, (ii) the Company has not incurred any liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company's financial statements pursuant to GAAP or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting, (iv) the Company has not declared or made any dividend or distribution of cash or other property to its stockholders or purchased, redeemed or made any agreements to purchase or redeem any shares of its capital stock and (v) except as set forth in Schedule 3.1(g), the Company has not issued any equity securities to any officer, director or Affiliate, except pursuant to existing Company stock option plans. The Company does not have pending before the Commission any request for confidential treatment of information. Except for the issuance of the Securities contemplated by this Agreement or as set forth on Schedule 3.1(i), no event, liability, fact, circumstance, occurrence or development has occurred or exists or is reasonably expected to occur or exist with respect to the Company or its Subsidiaries or their respective businesses, properties, operations, assets or financial condition, that would be required to be disclosed by the Company under applicable securities laws at the time this representation is made or deemed made that has not been publicly disclosed at least 1 Trading Day prior to the date that this representation is made, (vi) the Company has currently changing that auditor and the new auditor will replace current auditor EY, based in UK, with a Boston based second tier auditor immediately for reporting the second quarter results, (vii) the Company is currently restructure its finance department and will have only 1 CFO by end of July 2015 and two staff serving the finance department in total.

(j) Litigation. Other than as specifically identified in Schedule 3.1a) there is no action, suit, inquiry, notice of violation, proceeding or investigation pending or, to the knowledge of the Company, threatened against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign) (collectively, an "Action") which (i) adversely affects or challenges the legality, validity or enforceability of any of the Transaction Documents or the Securities or (ii) could, if there were an unfavorable decision, have or reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary, nor any director or officer thereof, is or has been the subject of any Action involving a claim of violation of or liability under federal or state securities laws or a claim of breach of fiduciary duty. There has not been, and to the knowledge of the Company, there is not pending or contemplated, any investigation by the Commission involving the Company or any current or former director or officer of the Company. The Commission has not issued any stop order or other order suspending the effectiveness of any registration statement filed by the Company or any Subsidiary under the Exchange Act or the Securities Act.

(k) Labor Relations. No labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which could reasonably be expected to result in a Material Adverse Effect. None of the Company's or its Subsidiaries' employees is a member of a union that relates to such employee's relationship with the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement, and the Company and its Subsidiaries believe that their relationships with their employees are good. To the knowledge of the Company, no executive officer of the Company or any Subsidiary, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant in favor of any third party, and the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. The Company and its Subsidiaries are in compliance with all U.S. federal, state, local and foreign laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(l) Compliance. Neither the Company nor any Subsidiary: (i) is in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company or any Subsidiary under), nor has the Company or any Subsidiary received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived); (ii) is in violation of any judgment, decree or order of any court, arbitrator or other governmental authority; or (iii) is or has been in violation (except for normal informational filings made in Q1 2015 in the U.K. of the separate unconsolidated financial statements of the Company's U.K. subsidiaries for the year ended December 31, 2013 which were due to be filed by December 31, 2014) of any statute, rule, ordinance or regulation of any governmental authority, including without limitation all foreign, federal, state and local laws relating to taxes, environmental protection, occupational health and safety, product quality and safety and employment and labor matters, except in each case as could not have or reasonably be expected to result in a Material Adverse Effect.

(m) Regulatory Permits. The Company and the Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state, local or foreign regulatory authorities necessary to conduct their respective businesses as described in the SEC Reports, except where the failure to possess such permits could not reasonably be expected to result in a Material Adverse Effect ("Material Permits"), and neither the Company nor any Subsidiary has received any notice of proceedings relating to the revocation or modification of any Material Permit.

(n) Title to Assets. The Company and the Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and the Subsidiaries, in each case free and clear of all Liens, except for (i) Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries and (ii) Liens for the payment of federal, state or other taxes, for which appropriate reserves have been made therefor in accordance with GAAP and, the payment of which is neither delinquent nor subject to penalties. Any real property and facilities held under lease by the Company and the Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and the Subsidiaries are in compliance.

(o) Intellectual Property. The Company and the Subsidiaries have, or have rights to use, all patents, patent applications, trademarks, trademark applications, service marks, trade names, trade secrets, inventions, copyrights, licenses and other intellectual property rights and similar rights as described in the SEC Reports as necessary or required for use in connection with their respective businesses and which the failure to so have could have a Material Adverse Effect (collectively, the "Intellectual Property Rights"). Neither the Company nor any Subsidiary has knowledge of or has received a notice (written or otherwise) that any of the Intellectual Property Rights has expired, terminated or been abandoned, or is expected to expire or terminate or be abandoned, within two (2) years from the date of this Agreement. Neither the Company nor any Subsidiary has received, since the date of the latest audited financial statements included within the SEC Reports, a written notice of a claim or otherwise has any knowledge that the Intellectual Property Rights violate or infringe upon the rights of any Person, except as could not have or reasonably be expected to not have a Material Adverse Effect, and to the knowledge of the Company no such violation or infringement exists or, upon commercialization, would exist. To the knowledge of the Company, all such Intellectual Property Rights are enforceable and there is no existing infringement by another Person of any of the Intellectual Property Rights. The Company and its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their intellectual properties, except where failure to do so could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(p) Insurance. The Company and the Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the businesses in which the Company and the Subsidiaries are engaged, including, but not limited to, directors and officers insurance coverage at least equal to the aggregate Subscription Amount. Neither the Company nor any Subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business without a significant increase in cost.

(q) Transactions With Affiliates and Employees. Except as set forth in the SEC Reports, none of the officers or directors of the Company or any Subsidiary and, to the knowledge of the Company, none of the employees of the Company or any Subsidiary is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from providing for the borrowing of money from or lending of money to, or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee, stockholder, member or partner, in each case in excess of \$120,000 other than for: (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

(r) Sarbanes-Oxley: Internal Accounting Controls. The Company and the Subsidiaries are in compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002 that are effective as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof and as of the Closing Date. The Company and the Subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company and the Subsidiaries have established disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and the Subsidiaries and designed such disclosure controls and procedures to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms. The Company's certifying officers have evaluated the effectiveness of the disclosure controls and procedures of the Company and the Subsidiaries as of the end of the period covered by the most recently filed periodic report under the Exchange Act (such date, the "Evaluation Date"). The Company presented in its most recently filed periodic report under the Exchange Act the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the Evaluation Date. Since the Evaluation Date, there have been no changes in the internal control over financial reporting (as such term is defined in the Exchange Act) that have materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of the Company and its Subsidiaries.

(s) Certain Fees. Other than as set forth on Schedule 3.1(s), no brokerage or finder's fees or commissions are or will be payable by the Company or any Subsidiaries to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. The Purchaser shall have no obligation with respect to any fees or with respect to any claims made by or on behalf of other Persons for fees of a type contemplated in this Section that may be due in connection with the transactions contemplated by the Transaction Documents.

(t) Private Placement. Assuming the accuracy of the Purchaser's representations and warranties set forth in Section 3.2, no registration under the Securities Act is required for the offer and sale of the Securities by the Company to the Purchaser as contemplated hereby. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of the Trading Market.

(u) Investment Company. The Company is not, and is not an Affiliate of, and immediately after receipt of payment for the Securities, will not be or be an Affiliate of, an "investment company" within the meaning of the Investment Company Act of 1940, as amended. The Company shall conduct its business in a manner so that it will not become an "investment company" subject to registration under the Investment Company Act of 1940, as amended.

(v) Registration Rights. Other than the Purchaser, no Person has any right to cause the Company to effect the registration under the Securities Act of any securities of the Company or ally Subsidiaries save for the rights detailed in schedule 3.1 (g).

(w) Listing and Maintenance Requirements. The Company has not, in the twelve (12) months preceding the date hereof, received notice from any Trading Market on which the Common Stock is or has been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market. The Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements.

(x) Application of Takeover Protections. The Company and the Board of Directors have taken all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Company's certificate of incorporation (or similar charter documents) or the laws of its state of incorporation that is or could become applicable to the Purchaser as a result of the Purchaser and the Company fulfilling their obligations or exercising their rights under the Transaction Documents, including without limitation as a result of the Company's issuance of the Securities and the Purchaser's ownership of the Securities.

(y) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, the Company confirms that neither it nor any other Person acting on its behalf has provided any of the Purchaser with any information that it believes constitutes or might constitute material, non-public information. The Company understands and confirms that the Purchaser will rely on the foregoing representation in effecting transactions in securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Purchaser regarding the Company and its Subsidiaries, their respective businesses and the transactions contemplated hereby, including the Disclosure Schedules to this Agreement, is true and correct and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. The press releases disseminated by the Company during the twelve months preceding the date of this Agreement taken as a whole do not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made and when made, not misleading. The Company acknowledges and agrees that no Purchaser makes or has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 3.2 hereof.

(z) No Integrated Offering. Assuming the accuracy of the Purchaser's representations and warranties set forth in Section 3.2, without Purchaser's prior approval neither the Company, nor any of its Affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause this offering of the Securities to be integrated with prior offerings by the Company for purposes of (i) the Securities Act which would require the registration of any such securities under the Securities Act, or (ii) any applicable shareholder approval provisions of any Trading Market on which any of the securities of the Company are listed or designated.

(aa) Solvency. Based on the consolidated financial condition of the Company as of the Closing Date, after giving effect to the receipt by the Company of the proceeds from the sale of the Securities hereunder: (i) the fair saleable value of the Company's assets exceeds the amount that will be required to be paid on or in respect of the Company's existing debts and other liabilities (including known contingent liabilities) as they mature; (ii) the Company's assets do not constitute unreasonably small capital to carry on its business as now conducted and as proposed to be conducted including its capital needs taking into account the particular capital requirements of the business conducted by the Company, consolidated and projected capital requirements and capital availability thereof; and (iii) the current cash flow of the Company, together with the proceeds the Company would receive, were it to liquidate all of its assets, after taking into account all anticipated uses of the cash, would be sufficient to pay all amounts on or in respect of its liabilities when such amounts are required to be paid. The Company does not intend to incur debts beyond its ability to pay such debts as they mature (taking into account the timing and amounts of cash to be payable on or in respect of its debt). The Company has no knowledge of any facts or circumstances which lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one year from the Closing Date. Schedule 3.1(aa) sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$50,000 (other than trade accounts payable incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$50,000 due under leases required to be capitalized in accordance with GAAP. Neither the Company nor any Subsidiary is in default with respect to any Indebtedness.

(bb) Tax Status. Except for matters that would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect, the Company and its Subsidiaries each (i) has made or filed all United States federal, state and local income and all foreign income and franchise tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations and (iii) has set aside on its books provision reasonably adequate for the payment of all material taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company or of any Subsidiary know of no basis for any such claim.

(cc) No General Solicitation. Neither the Company nor any person acting on behalf of the Company has offered or sold any of the Securities by any form of general solicitation or general advertising. The Company has offered the Securities for sale only to the Purchaser and certain other "accredited investors" within the meaning of Rule 501 under the Securities Act.

(dd) Foreign Corrupt Practices. Neither the Company nor any Subsidiary, nor to the knowledge of the Company or any Subsidiary, any agent or other person acting on behalf of the Company or any Subsidiary, has: (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company or any Subsidiary (or made by any person acting on its behalf of which the Company is aware) which is in violation of law or (iv) violated in any material respect any provision of FCPA.

(ee) Accountants. The Company's accounting firm is set forth on Schedule 3.1(ee) of the Disclosure Schedules. To the knowledge and belief of the Company, such accounting firm: (i) is a registered public accounting firm as required by the Exchange Act; and (ii) shall express its opinion with respect to the financial statements to be included in the Company's Annual Report for the fiscal year ending December 31, 2014.

(ff) Seniority. As of the Closing Date, no Indebtedness or other claim against the Company is senior to the Note in right of payment, whether with respect to interest or upon liquidation or dissolution, or otherwise, other than indebtedness secured by purchase money security interests (which is senior only as to underlying assets covered thereby) and capital lease obligations (which is senior only as to the property covered thereby).

(gg) No Disagreements with Accountants and Lawyers. There are no disagreements of any kind presently existing, or reasonably anticipated by the Company to arise, between the Company and the accountants and lawyers formerly or presently employed by the Company and the Company is current with respect to any fees owed to its accountants and lawyers which could affect the Company's ability to perform any of its obligations under any of the Transaction Documents.

(hh) Acknowledgment Regarding Purchaser's Purchase of Securities. The Company acknowledges and agrees that the Purchaser is acting solely in the capacity of an arm's length purchaser with respect to the Transaction Documents and the transactions contemplated thereby. The Company further acknowledges that no Purchaser is acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated thereby and any advice given by any Purchaser or any of their respective representatives or agents in connection with the Transaction Documents and the transactions contemplated thereby is merely incidental to the Purchaser's purchase of the Securities. The Company further represents to the Purchaser that the Company's decision to enter into this Agreement and the other Transaction Documents has been based solely on the independent evaluation of the transactions contemplated hereby by the Company and its representatives.

(ii) Acknowledgment Regarding Purchaser's Trading Activity. Anything in this Agreement or elsewhere herein to the contrary notwithstanding (except for Sections 3.2(f) and 4.15 hereof), it is understood and acknowledged by the Company that subject to the limitations contained in Section 4.15: (i) the Purchaser has not been asked by the Company to agree, nor has the Purchaser agreed, to desist from purchasing or selling, long and/or short, securities of the Company, or "derivative" securities based on securities issued by the Company or to hold the Securities for any specified term; (ii) past or future open market or other transactions by the Purchaser, specifically including, without limitation, Short Sales or "derivative" transactions, before or after the closing of this or future private placement transactions, may negatively impact the market price of the Company's publicly-traded securities; (iii) the Purchaser, and counter-parties in "derivative" transactions to which the Purchaser is a party, directly or indirectly, may presently have a "short" position in the Common Stock; and (iv) the Purchaser shall not be deemed to have any affiliation with or control over any arm's length counter-party in any "derivative" transaction. The Company further understands and acknowledges that other than as specifically restricted herein (y) one or more Purchaser may engage in hedging activities at various times during the period that the Securities are outstanding, including, without limitation, during the periods that the value of the Underlying Shares and the Warrant Shares deliverable with respect to Securities are being determined, and (z) such hedging activities (if any) could reduce the value of the existing stockholders' equity interests in the Company at and after the time that the hedging activities are being conducted. The Company acknowledges that such aforementioned hedging activities do not constitute a breach of any of the Transaction Documents so long as in compliance with the restrictions contained in paragraph 4.15 herein.

(jj) Regulation M Compliance. The Company has not, and to its knowledge no one acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Securities, (ii) sold, bid for, purchased, or paid any compensation for soliciting purchases of, any of the Securities, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company, other than, in the case of clauses (ii) and (iii), compensation paid to the Company's placement agent in connection with the placement of the Securities.

(kk) Stock Option Plans. Each stock option granted by the Company under the Company's stock option plan was granted (i) in accordance with the terms of the Company's stock option plan and (ii) with an exercise price at least equal to the fair market value of the Common Stock on the date such stock option would be considered granted under GAAP and applicable law. No stock option granted under the Company's stock option plan has been backdated. The Company has not knowingly granted, and there is no and has been no Company policy or practice to knowingly grant, stock options prior to, or otherwise knowingly coordinate the grant of stock options with, the release or other public announcement of material information regarding the Company or its Subsidiaries or their financial results or prospects.

(ll) Office of Foreign Assets Control. Neither the Company nor any Subsidiary nor, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company or any Subsidiary is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC").

(mm) U.S. Real Property Holding Corporation. The Company is not and has never been a U.S. real property holding corporation within the meaning of Section 897 of the Internal Revenue Code of 1986, as amended, and the Company shall so certify upon Purchaser's request.

(nn) Bank Holding Company Act. Neither the Company nor any of its Subsidiaries or Affiliates is subject to the Bank Holding Company Act of 1956, as amended (the "BHCA") and to regulation by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). Neither the Company nor any of its Subsidiaries or Affiliates owns or controls, directly or indirectly, five percent (5%) or more of the outstanding shares of any class of voting securities or twenty-five percent or more of the total equity of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve. Neither the Company nor any of its Subsidiaries or Affiliates exercises a controlling influence over the management or policies of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve.

(oo) Money Laundering. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial record-keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the "Money Laundering Laws"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company or any Subsidiary, threatened.

3.2 Representations and Warranties of the Purchaser. The Purchaser hereby represents and warrants as of the date hereof and as of the Closing Date to the Company as follows (unless as of a specific date therein):

(a) Organization; Authority. The Purchaser is either an individual or an entity duly incorporated or formed, validly existing and in good standing under the laws of the jurisdiction of its incorporation or formation with full right, corporate, partnership, limited liability company or similar power and authority to enter into and to consummate the transactions contemplated by the Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of the Transaction Documents and performance by the Purchaser of the transactions contemplated by the Transaction Documents have been duly authorized by all necessary corporate, partnership, limited liability company or similar action, as applicable, on the part of the Purchaser. Each Transaction Document to which it is a party has been duly executed by the Purchaser, and when delivered by the Purchaser in accordance with the terms hereof, will constitute the valid and legally binding obligation of the Purchaser, enforceable against it in accordance with its terms, except: (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally; (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies; and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

(b) Own Account. The Purchaser understands that the Securities are "restricted securities" and have not been registered under the Securities Act or any applicable state securities law and is acquiring the Securities as principal for its own account and not with a view to or for distributing or reselling such Securities or any part thereof in violation of the Securities Act or any applicable state securities law, has no present intention of distributing any of such Securities in violation of the Securities Act or any applicable state securities law and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Securities in violation of the Securities Act or any applicable state securities law (this representation and warranty not limiting the Purchaser's right to sell the Securities pursuant to the Registration Statement or otherwise in compliance with applicable federal and state securities laws). The Purchaser is acquiring the Securities hereunder in the ordinary course of its business.

(c) Purchaser Status. At the time the Purchaser was offered the Securities, it was, and as of the date hereof it is, and on each date on which it converts the Note or exercises a Warrant it will be an "accredited investor" as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act.

(d) Experience of The Purchaser. The Purchaser, either alone or together with its representatives, has such knowledge, sophistication and experience in business and financial matters so as to be capable of evaluating the merits and risks of the prospective investment in the Securities, and has so evaluated the merits and risks of such investment. The Purchaser is able to bear the economic risk of an investment in the Securities and, at the present time, is able to afford a complete loss of such investment.

(e) General Solicitation. The Purchaser is not purchasing the Securities as a result of any advertisement, article, notice or other communication regarding the Securities published in any newspaper, magazine or similar media or broadcast over television or radio or presented at any seminar or any other general solicitation or general advertisement.

(f) Certain Transactions and Confidentiality. Other than consummating the transactions contemplated hereunder, the Purchaser has not directly or indirectly, nor has any Person acting on behalf of or pursuant to any understanding with the Purchaser, executed any purchases or sales, including Short Sales, of the securities of the Company during the period commencing as of the time that the Purchaser first received a term sheet (written or oral) from the Company or any other Person representing the Company setting forth the material terms of the transactions contemplated hereunder and ending immediately prior to the execution hereof. Notwithstanding the foregoing, in the case the Purchaser that is a multi-managed investment vehicle whereby separate portfolio managers manage separate portions of the Purchaser's assets and the portfolio managers have no direct knowledge of the investment decisions made by the portfolio managers managing other portions of the Purchaser's assets, the representation set forth above shall only apply with respect to the portion of assets managed by the portfolio manager that made the investment decision to purchase the Securities covered by this Agreement. Other than to other Persons party to this Agreement, the Purchaser has maintained the confidentiality of all disclosures made to it in connection with this transaction (including the existence and terms of this transaction). Notwithstanding the foregoing, for avoidance of doubt, nothing contained herein shall constitute a representation or warranty, or preclude any actions, with respect to the identification of the availability of, or securing of, available shares to borrow in order to effect Short Sales or similar transactions in the future.

The Company acknowledges and agrees that the representations contained in Section 3.2 shall not modify, amend or affect the Purchaser's right to rely on the Company's representations and warranties contained in this Agreement or any representations and warranties contained in any other Transaction Document or any other document or instrument executed and/or delivered in connection with this Agreement or the consummation of the transaction contemplated hereby.

ARTICLE IV.

OTHER AGREEMENTS OF THE PARTIES

4.1 Transfer Restrictions.

(a) The Securities may only be disposed of in compliance with state and federal securities laws. In connection with any transfer of Securities other than pursuant to an effective registration statement or Rule 144, to the Company or to an Affiliate of the Purchaser or in connection with a pledge as contemplated in Section 4.1(b), the Company may require the transferor thereof to provide to the Company an opinion of counsel selected by the transferor and reasonably acceptable to the Company, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Securities under the Securities Act. As a condition of transfer, any such transferee shall agree in writing to be bound by the terms of this Agreement and the Registration Rights Agreement and shall have the rights and obligations of the Purchaser under this Agreement and the Registration Rights Agreement.

(b) The Purchaser agrees to the imprinting, so long as is required by this Section 4.1, of a legend on any of the Securities in the following form:

[NEITHER] THIS SECURITY [NOR THE SECURITIES INTO WHICH THIS SECURITY IS [EXERCISABLE] [CONVERTIBLE]] HAS [NOT] BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY. THIS SECURITY [AND THE SECURITIES ISSUABLE UPON [EXERCISE] [CONVERSION] OF THIS SECURITY] MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN "ACCREDITED INVESTOR" AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

The Company acknowledges and agrees that the Purchaser may from time to time pledge pursuant to a bona fide margin agreement with a registered broker-dealer or grant a security interest in some or all of the Securities to a financial institution that is an "accredited investor" as defined in Rule 501(a) under the Securities Act and who agrees to be bound by the provisions of this Agreement and the Registration Rights Agreement and, if required under the terms of such arrangement, the Purchaser may transfer pledged or secured Securities to the pledgees or secured parties. Such a pledge or transfer would not be subject to approval of the Company and no legal opinion of legal counsel of the pledgee, secured party or pledgor shall be required in connection therewith. Further, no notice shall be required of such pledge. At the appropriate Purchaser's expense, the Company will execute and deliver such reasonable documentation as a pledgee or secured party of Securities may reasonably request in connection with a pledge or transfer of the Securities, including, if the Securities are subject to registration pursuant to the Registration Rights Agreement, the preparation and filing of any required prospectus supplement under Rule 424(b)(3) under the Securities Act or other applicable provision of the Securities Act to appropriately amend the list of Selling Stockholders (as defined in the Registration Rights Agreement) thereunder.

(c) Certificates evidencing the Underlying Shares and the Warrant Shares shall not contain any legend (including the legend set forth in Section 4.1(b) hereof): (i) while a registration statement (including the Registration Statement) covering the resale of such security is effective under the Securities Act; (ii) following any sale of such Underlying Shares and Warrant Shares pursuant to Rule 144; (iii) if such Underlying Shares and Warrant Shares are eligible for sale under Rule 144; or (iv) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission). The Company and its Transfer Agent shall agree to accept the opinion of any licensed counsel of Lender's choice or shall cause its counsel to issue a legal opinion to the Transfer Agent promptly after any of the events described in (i)-(iv) in the preceding sentence if required by the Transfer Agent to effect the removal of the legend hereunder (with a copy to the applicable Purchaser and its broker). If all or any portion of a Note is converted at a time when there is an effective registration statement to cover the resale of the Underlying Shares and Warrant Shares, or if such Underlying Shares and Warrant Shares may be sold under Rule 144 or if such legend is not otherwise required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission) then such Underlying Shares and Warrant Shares shall be issued free of all legends. The Company agrees that following the Securities Effective Date or at such time as such legend is no longer required under this Section 4.1(c), it will, no later than three (3) Trading Days following the delivery by the Purchaser to the Company or the Transfer Agent of a certificate representing Underlying Shares and Warrant Shares, as applicable, issued with a restrictive legend (such third Trading Day, the "Legend Removal Date"), deliver or cause to be delivered to the Purchaser a certificate representing such shares that is free from all restrictive and other legends. The Company may not make any notation on its records or give instructions to the Transfer Agent that enlarge the restrictions on transfer set forth in this Section 4. Certificates for Underlying Shares and Warrant Shares subject to legend removal hereunder shall be transmitted by the Transfer Agent to the Purchaser by crediting the account of the Purchaser's prime broker with the Depository Trust Company System as directed by the Purchaser.

(d) In addition to the Purchaser's other available remedies, the Company shall pay to the Purchaser, in cash, as partial liquidated damages and not as a penalty, for each \$10,000 of Underlying Shares and Warrant Shares (based on the VWAP of the Common Stock on the date such Securities are submitted to the Transfer Agent) delivered for removal of the restrictive legend and subject to Section 4.1(c), \$10 per Trading Day (increasing to \$20 per Trading Day five (5) Trading Days after such damages have begun to accrue) for each Trading Day after the Legend Removal Date until such certificate is delivered without a legend, for so long as such delay is caused by the Company. Nothing herein shall limit the Purchaser's right to pursue actual damages for the Company's failure to deliver certificates representing any Securities as required by the Transaction Documents, and the Purchaser shall have the right to pursue all remedies available to it at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief.

4.2 Acknowledgment of Dilution. The Company acknowledges that the issuance of the Securities may result in dilution of the outstanding shares of Common Stock, which dilution may be substantial under certain market conditions. The Company further acknowledges that its obligations under the Transaction Documents, including, without limitation, its obligation to issue the Underlying Shares and the Warrant Shares pursuant to the Transaction Documents, are unconditional and absolute and not subject to any right of set off, counterclaim, delay or reduction, regardless of the effect of any such dilution or any claim the Company may have against any Purchaser and regardless of the dilutive effect that such issuance may have on the ownership of the other stockholders of the Company. In the event of an issuance of stock involving tranches or other multiple closings, the anti-dilution adjustment shall be calculated as if all stock was issued at the Closing.

4.3 Furnishing of Information: Public Information.

(a) If the Common Stock is not registered under Section 12(b) or 12(g) of the Exchange Act on the date hereof, except for delays which may be caused outside of the Company's control, the Company agrees to use its best efforts to register the Common Stock under Section 12(g) of the Exchange Act on or before the ninetieth (90th) calendar day following the date hereof. Until the earliest of the time that no Purchaser owns Securities, the Company covenants to maintain the registration of the Common Stock under Section 12(b) or 12(g) of the Exchange Act and to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to the Exchange Act even if the Company is not then subject to the reporting requirements of the Exchange Act.

(b) At any time during the period commencing from the six (6) month anniversary of the date hereof and ending at such time that all of the Securities may be sold without the requirement for the Company to be in compliance with Rule 144(c)(1) and otherwise without restriction or limitation pursuant to Rule 144, if the Company shall fail for any reason under its control to satisfy the current public information requirement under Rule 144(c) (a "Public Information Failure") then, in addition to the Purchaser's other available remedies, the Company upon receipt of a 30 day notice to pay or cure, shall pay to the Purchaser, in cash, as partial liquidated damages and not as a penalty, by reason of any such delay in or reduction of its ability to sell the Securities, an amount in cash equal to two percent (2.0%) of the aggregate Subscription Amount of the Purchaser's Securities on the day of a Public Information Failure and on every thirtieth (30th) day (pro-rated for periods totaling less than thirty days) thereafter until the earlier of (a) the date such Public Information Failure is cured and (b) such time that such public information is no longer required for the Purchaser to transfer the Underlying Shares and the Warrant Shares pursuant to Rule 144. The payments to which the Purchaser shall be entitled pursuant to this Section 4.3(b) are referred to herein as "Public Information Failure Payments." Public Information Failure Payments shall be paid on the earlier of (i) the last day of the calendar month during which such Public Information Failure Payments are incurred and (ii) the third (3rd) Business Day after the event or failure giving rise to the Public Information Failure Payments is cured. In the event the Company fails to make Public Information Failure Payments in a timely manner, such Public Information Failure Payments shall bear interest at the rate of 1.5% per month (prorated for partial months) until paid in full. Nothing herein shall limit such Purchaser's right to pursue actual damages for the Public Information Failure, and the Purchaser shall have the right to pursue all remedies available to it at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief.

4.4 Integration. The Company shall not sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in Section 2 of the Securities Act) that would be integrated with the offer or sale of the Securities in a manner that would require the registration under the Securities Act of the sale of the Securities or that would be integrated with the offer or sale of the Securities for purposes of the rules and regulations of any Trading Market such that it would require shareholder approval prior to the closing of such other transaction unless shareholder approval is obtained before the closing of such subsequent transaction.

4.5 Conversion and Exercise Procedures. The form of Notice of Conversion included in the Note set forth the totality of the procedures required of the Purchaser in order to convert the Note. Without limiting the preceding sentences, no ink-original Notice of Exercise or Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required in order to convert the Note. No additional legal opinion, other information or instructions shall be required of the Purchaser to convert its Note. The Company shall honor conversions of the Note and shall deliver Underlying Shares and the Warrant Shares in accordance with the terms, conditions and time periods set forth in the Transaction Documents.

4.6 Securities Laws Disclosure: Publicity. The Company shall (a) by 9:30 a.m. (New York City time) on the Trading Day immediately following the date hereof, issue a press release disclosing the material terms of the transactions contemplated hereby, and (b) file a Current Report on Form 8-K, including the Transaction Documents as exhibits thereto, with the Commission within the time required by the Exchange Act. From and after the issuance of such press release, the Company represents to the Purchaser that it shall have publicly disclosed all material, non-public information delivered to the Purchaser by the Company or any of its Subsidiaries, or any of their respective officers, directors, employees or agents in connection with the transactions contemplated by the Transaction Documents. The Company and the Purchaser shall consult with each other in issuing any other press releases with respect to the transactions contemplated hereby, and neither the Company nor the Purchaser shall issue any such press release nor otherwise make any such public statement without the prior consent of the Company, with respect to any press release of the Purchaser, or without the prior consent of the Purchaser, with respect to any press release of the Company, which consent shall not unreasonably be withheld or delayed, except if such disclosure is required by law, in which case the disclosing party shall promptly provide the other party with prior notice of such public statement or communication. Notwithstanding the foregoing, the Company shall not publicly disclose the name of the Purchaser, or include the name of the Purchaser in any filing with the Commission or any regulatory agency or Trading Market, without the prior written consent of the Purchaser, except: (a) as required by federal securities law in connection with any registration statement contemplated by the Registration Rights Agreement and (b) to the extent such disclosure is required by law or Trading Market regulations, in which case the Company shall provide the Purchaser with prior notice of such disclosure permitted under this clause (b).

4.7 Shareholder Rights Plan. No claim will be made or enforced by the Company or, with the consent of the Company, any other Person, that the Purchaser is an "Acquiring Person" under any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or similar anti-takeover plan or arrangement in effect or hereafter adopted by the Company, or that the Purchaser could be deemed to trigger the provisions of any such plan or arrangement, by virtue of receiving Securities under the Transaction Documents or under any other agreement between the Company and the Purchaser.

4.8 Non-Public Information. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, the Company covenants and agrees that neither it, nor any other Person acting on its behalf, will provide the Purchaser or its agents or counsel with any information that the Company believes constitutes material nonpublic information, unless prior thereto the Purchaser shall have entered into a written agreement with the Company regarding the confidentiality and use of such information. The Company understands and confirms that the Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company.

4.9 Use of Proceeds. The Company shall use the net proceeds hereunder as set forth on Schedule 4.9 attached hereto, and shall not use such proceeds: (a) for the satisfaction of any portion of the Company's debt (other than payment of account payables in the ordinary course of the Company's business and prior practices); (b) for the redemption of any Common Stock or Common Stock Equivalents; (c) for the settlement of any outstanding litigation; or (d) in violation of FCPA or OFAC regulations.

4.10 Indemnification of Purchaser. Subject to the provisions of this Section 4.10, the Company will indemnify and hold the Purchaser and its directors, officers, shareholders, members, managers, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls the Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, shareholders, agents, members, managers, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling persons (each, a "Purchaser Party") harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys' fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against the Purchaser Parties in any capacity, or any of them or their respective Affiliates, by any stockholder of the Company who is not an Affiliate of such Purchaser Party, with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a breach of such Purchaser Party's representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser Party may have with any such stockholder or any violations by such Purchaser Party of state or federal securities laws or any conduct by such Purchaser Party which constitutes fraud, gross negligence, willful misconduct or malfeasance). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of counsel, a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement (y) for any settlement by the Purchaser Party effected without the Company's prior written consent, which shall not be unreasonably withheld or delayed; or (z) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party's breach of any of the representations, warranties, covenants or agreements made by such Purchaser Party in this Agreement or in the other Transaction Documents. The indemnification required by this Section 4.10 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or are incurred. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any Purchaser Party against the Company or others and any liabilities the Company may be subject to pursuant to law.

4.11 Reservation and Listing of Securities.

(a) The Company shall maintain a reserve from its duly authorized shares of Common Stock for issuance pursuant to the Transaction Documents in such amount as may then be required to fulfill its obligations in full under the Transaction Documents. On a monthly basis, the Company will adjust the reserve as necessary to make sure that 200% of the Required Minimum is available. However, at no point should the reserve be adjusted downwards.

(b) If, on any date, the number of authorized but unissued (and otherwise unreserved) shares of Common Stock is less than 200% of the Required Minimum on such date, then the Board of Directors shall use commercially reasonable efforts to amend the Company's certificate or articles of incorporation to increase the number of authorized but unissued shares of Common Stock to at least 200% of the Required Minimum at such time, as soon as possible and in any event not later than the ninetieth (90th) day after such date.

(c) The Company shall, if applicable: (i) in the time and manner required by the principal Trading Market, prepare and file with such Trading Market an additional shares listing application covering a number of shares of Common Stock at least equal to the Required Minimum on the date of such application; (ii) take all steps necessary to cause such shares of Common Stock to be approved for listing or quotation on such Trading Market as soon as possible thereafter; (iii) provide to the Purchaser evidence of such listing or quotation; and (iv) maintain the listing or quotation of such Common Stock on any date at least equal to the Required Minimum on such date on such Trading Market or another Trading Market.

4.12 Reserved.

4.13 Reserved.

4.14 Equal Treatment of the Purchaser. No consideration (including any modification of any Transaction Document) shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of this Agreement unless the same consideration is also offered to all of the parties to this Agreement. Further, the Company shall not make any payment of principal or interest on the Note in amounts which are disproportionate to the principal amount outstanding on the Note at any applicable time. For clarification purposes, this provision constitutes a separate right granted to the Purchaser by the Company and negotiated separately by the Purchaser, and is intended for the Company to treat the Purchaser and shall not in any way be construed as the Purchaser acting in concert or as a group with respect to the purchase, disposition or voting of Securities or otherwise.

4.15 Certain Transactions and Confidentiality. The Purchaser covenants that neither it, nor any Affiliate acting on its behalf or pursuant to any understanding with it will (i) execute any Short Sales or Hedging Transactions, of any of the Company's securities during the period commencing with the execution of this Agreement and ending at such time as the Company has been listed on the NASDAQ Capital Markets Exchange for a period of 3 months, or (ii) execute any Short Sales or Hedging Transactions of the Common Stock from the date hereof before the Underlying Shares and Warrants have been registered with the Securities and Exchange Commission (a "Prohibited Short Sale"). The Purchaser covenants that until such time as the transactions contemplated by this Agreement are publicly disclosed and all required filings are made with the Securities and Exchange Commission, the Purchaser will maintain the confidentiality of the existence and terms of this transaction and the information included in the Transaction Documents and the Disclosure Schedules. Notwithstanding the foregoing, and notwithstanding anything contained in this Agreement to the contrary, the Purchaser reaffirms its obligations to maintain confidentiality and not to trade on any material non-public information provided to Purchaser by the Company.

4.16 Form D; Blue Sky Filings. The Company agrees to timely file a Form D with respect to the Securities as required under Regulation D and to provide a copy thereof, promptly upon request of the Purchaser. The Company shall take such action as the Company shall reasonably determine is necessary in order to obtain an exemption for, or to qualify the Securities for, sale to the Purchaser at the Closing under applicable securities or "Blue Sky" laws of the states of the United States, and shall provide evidence of such actions promptly upon request of the Purchaser.

4.17. The Company agrees to implement several cost cutting initiatives including, but not limited to following: (A) the Company has agree to replace current auditor EY, based in UK, with a Boston based second tier auditor immediately for reporting the second quarter results, (B) the Company is currently restructure its finance department and will have only 1 CFO by end of July 2015.

4.18. The Company agrees to grant purchaser the right during the period the note is outstanding, to nominate for appointment to the Company Board of Directors, Dr. Dmitry Gen kin.

ARTICLE V.
MISCELLANEOUS

5.1 Termination. This Agreement may be terminated by the Purchaser, as to the Purchaser's obligations hereunder, by written notice to the other parties, if the Closing has not been consummated on or before June 20, 2015; provided, however, that such termination will not affect the right of any party to sue for any breach by any other party (or parties).

5.2 Fees and Expenses. At the Closing, the Company has agreed to reimburse the Purchaser the sum of \$10,000 for expenses associated with due diligence, and its legal fees, which shall be paid at the Closing. The Company shall deliver to the Purchaser, prior to the Closing, a completed and executed copy of the Closing Statement, attached hereto as Annex A. Except as expressly set forth in the Transaction Documents to the contrary, each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. The Company shall pay all Transfer Agent fees (including, without limitation, any fees required for same-day processing of any instruction letter delivered by the Company and any conversion or exercise notice delivered by the Purchaser), stamp taxes and other taxes and duties levied in connection with the delivery of any Securities to the Purchaser.

5.3 Entire Agreement. The Transaction Documents, together with the exhibits and schedules thereto, contain the entire understanding of the parties with respect to the subject matter hereof and thereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into such documents, exhibits and schedules.

5.4 Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of: (a) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the second (2nd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto.

5.5 Amendments: Waivers. No provision of this Agreement may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment, by the Company and the Purchaser or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right.

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

5.7 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Purchaser (other than by merger). The Purchaser may assign any or all of its rights under this Agreement to any Person to whom the Purchaser assigns or transfers any Securities, provided that such transferee agrees in writing to be bound, with respect to the transferred Securities, by the provisions of the Transaction Documents that apply to the "Purchaser."

5.8 No Third-Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Section 4.10.

5.9 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and any other Transaction Documents (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action, suit or proceeding to enforce any provisions of the Transaction Documents, then, in addition to the obligations of the Company under Section 4.10, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

5.10 Survival. The representations and warranties contained herein shall survive the Closings and the delivery of the Securities.

5.11 Execution. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to each other party, it being understood that the parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdP" format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or ".pdf" signature page were an original thereof.

5.12 Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

5.13 Rescission and Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) any of the other Transaction Documents, whenever the Purchaser exercises a right, election, demand or option under a Transaction Document and the Company does not timely perform its related obligations within the periods therein provided, then the Purchaser may rescind or withdraw, in its sole discretion from time to time upon written notice to the Company, any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights; provided, however, that in the case of a rescission of a conversion of a Note, the applicable Purchaser shall be required to return any shares of Common Stock subject to any such rescinded conversion concurrently with the return to the Purchaser of the aggregate exercise price paid to the Company for such shares and the restoration of the Purchaser's right to acquire such shares.

5.14 Replacement of Securities. If any certificate or instrument evidencing any Securities is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation thereof (in the case of mutilation), or in lieu of and substitution therefor, a new certificate or instrument, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction. The applicant for a new certificate or instrument under such circumstances shall also pay any reasonable third-party costs (including customary indemnity) associated with the issuance of such replacement Securities.

5.15 Remedies. In addition to being entitled to exercise all rights provided herein or granted by law, including recovery of damages, each of the Purchaser and the Company will be entitled to specific performance under the Transaction Documents. The parties agree that monetary damages may not be adequate compensation for any loss incurred by reason of any breach of obligations contained in the Transaction Documents and hereby agree to waive and not to assert in any action for specific performance of any such obligation the defense that a remedy at law would be adequate.

5.16 Payment Set Aside. To the extent that the Company makes a payment or payments to any Purchaser pursuant to any Transaction Document or the Purchaser enforces or exercises its rights thereunder, and such payment or payments or the proceeds of such enforcement or exercise or any part thereof are subsequently invalidated, declared to be fraudulent or preferential, set aside, recovered from, disgorged by or are required to be refunded, repaid or otherwise restored to the Company, a trustee, receiver or any other Person under any law (including, without limitation, any bankruptcy law, state or federal law, common law or equitable cause of action), then to the extent of any such restoration the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such enforcement or setoff had not occurred.

5.17 Usury. To the extent it may lawfully do so, the Company hereby agrees not to insist upon or plead or in any manner whatsoever claim, and will resist any and all efforts to be compelled to take the benefit or advantage of, usury laws wherever enacted, now or at any time hereafter in force, in connection with any claim, action or proceeding that may be brought by the Purchaser in order to enforce any right or remedy under any Transaction Document. Notwithstanding any provision to the contrary contained in any Transaction Document, it is expressly agreed and provided that the total liability of the Company under the Transaction Documents for payments in the nature of interest shall not exceed the maximum lawful rate authorized under applicable law (the "Maximum Rate"), and, without limiting the foregoing, in no event shall any rate of interest or default interest, or both of them, when aggregated with any other sums in the nature of interest that the Company may be obligated to pay under the Transaction Documents exceed such Maximum Rate. It is agreed that if the maximum contract rate of interest allowed by law and applicable to the Transaction Documents is increased or decreased by statute or any official governmental action subsequent to the date hereof, the new maximum contract rate of interest allowed by law will be the Maximum Rate applicable to the Transaction Documents from the effective date thereof forward, unless such application is precluded by applicable law. If under any circumstances whatsoever, interest in excess of the Maximum Rate is paid by the Company to the Purchaser with respect to indebtedness evidenced by the Transaction Documents, such excess shall be applied by the Purchaser to the unpaid principal balance of any such indebtedness or be refunded to the Company, the manner of handling such excess to be at the Purchaser's election.

5.18 Liquidated Damages. The Company's obligations to pay any partial liquidated damages or other amounts owing under the Transaction Documents is a continuing obligation of the Company and shall not terminate until all unpaid partial liquidated damages and other amounts have been paid notwithstanding the fact that the instrument or security pursuant to which such partial liquidated damages or other amounts are due and payable shall have been canceled.

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

5.20 Construction. The parties agree that each of them and/or their respective counsel have reviewed and had an opportunity to revise the Transaction Documents and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of the Transaction Documents or any amendments thereto. In addition, each and every reference to share prices and shares of Common Stock in any Transaction Document shall be subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the Common Stock that occur after the date of this Agreement.

5.21 WAIVER OF JURY TRIAL. IN ANY ACTION, SUIT, OR PROCEEDING IN ANY JURISDICTION BROUGHT BY ANY PARTY AGAINST ANY OTHER PARTY, THE PARTIES EACH KNOWINGLY AND INTENTIONALLY, TO THE GREATEST EXTENT PERMITTED BY APPLICABLE LAW, HEREBY ABSOLUTELY, UNCONDITIONALLY, IRREVOCABLY AND EXPRESSLY WAIVES FOREVER TRIAL BY JURY.

(Signature Pages Follow)

IN WITNESS WHEREOF, the parties hereto have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above

XENETIC BIOSCIENCES, INC. -

Address for Notice:

By: /s/ M. S. Maguire

Fax:

Name: M. S. Maguire

Title:

With a copy to (which shall not constitute Notice):

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE FOR PURCHASER FOLLOWS

[PURCHASER SIGNATURE PAGE TO SECURITIES PURCHASE AGREEMENT]

IN WITNESS WHEREOF, the undersigned has caused this Securities Purchase Agreement to be duly executed by its authorized signatory as of the date first indicated above.

Name of Purchaser: OJSC "Pharmsynthez"

Signature of Authorized Signatory of Purchaser: /s/ Peter V. Kruglyako

Name of Authorized Signatory: Peter V. Kruglyako

Title of Authorized Signatory: Chief Executive Officer

Email Address of Authorized Signatory: pknw:lvakov@pharmsynthez.com

Facsimile Number of Authorized Signatory: 7 (8 12) 329 8089

Address for Notice to Purchaser: Office center "IT-Park", 25 Liter ZH, Krasnogo Kursanta ul.,
St. Petersburg , 197110 , Russia

Address for Delivery of Securities to Purchaser (if not same as address for notice): Office center "ITPark",
25 Liter ZH, Krasnogo Kursanta ul.,
St. Petersburg , 197110 , Russia

Subscription Amount/Principal Amount: US \$3 000 000

Individual Taxpayer Number: 7801075160

NEITHER THIS SECURITY NOR THE SECURITIES INTO WHICH THIS SECURITY IS CONVERTIBLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY. THIS SECURITY AND THE SECURITIES ISSUABLE UPON CONVERSION OF THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN SECURED BY SUCH SECURITIES.

Original Issue Date: **July 1, 2015**

Original Conversion Price (subject to adjustment herein): **\$0.15**

Principal Amount: \$3,000,000

**TEN PERCENT (10%) SENIOR
SECURED COLLATERALIZED
CONVERTIBLE PROMISSORY NOTE
DUE July 1, 2016**

THIS TEN PERCENT (10%) SENIOR SECURED COLLATERALIZED CONVERTIBLE PROMISSORY NOTE is a duly authorized and validly issued Ten Percent (10%) Senior Secured Collateralized Convertible Promissory Note of Xenetic Biosciences, Inc., a Nevada corporation (the "Company" or the "Borrower"), having its principal place of business at 99 Hayden Ave, Suite 230, Lexington, Massachusetts 02421, designated as its Ten Percent (10%) Senior Secured Collateralized Convertible Promissory Note due July 1, 2016 (the "Note").

FOR VALUE RECEIVED, the Company promises to pay to OJSC Pharmsynthez or its registered assigns (the "Holder"), or shall have paid pursuant to the terms hereunder, the principal sum of \$3,000,000 on July 1, 2016 (the "Maturity Date") or such earlier date as this Note is required or permitted to be repaid as provided hereunder, and to pay interest to the Holder on the aggregate unconverted and then outstanding principal amount of this Note in accordance with the provisions hereof. This Note is subject to the following additional provisions:

Section 1. Definitions. For the purposes hereof, in addition to the terms defined elsewhere in this Note, (a) capitalized terms not otherwise defined herein shall have the meanings set forth in the Purchase Agreement and (b) the following terms shall have the following meanings:

"Alternate Consideration" shall have the meaning set forth in Section 5(f).

"Bankruptcy Event" means any of the following events: (a) the Company or any Significant Subsidiary (as such term is defined in Rule 1-02(w) of Regulation S-X) thereof commences a case or other proceeding under any bankruptcy, reorganization, arrangement, adjustment of debt, relief of debtors, dissolution, insolvency or liquidation or similar law of any jurisdiction relating to the Company or any Significant Subsidiary thereof, (b) there is commenced against the Company or any Significant Subsidiary thereof any such case or proceeding that is not dismissed within 60 days after commencement, (c) the Company or any Significant Subsidiary thereof is adjudicated insolvent or bankrupt or any order of relief or other order approving any such case or proceeding is entered, (d) the Company or any Significant Subsidiary thereof suffers any appointment of any custodian or the like for it or any substantial part of its property that is not discharged or stayed within 60 calendar days after such appointment, (e) the Company or any Significant Subsidiary thereof makes a general assignment for the benefit of creditors, (f) the Company or any Significant Subsidiary thereof calls a meeting of its creditors with a view to arranging a composition, adjustment or restructuring of its debts or (g) the Company or any Significant Subsidiary thereof, by any act or failure to act, expressly indicates its consent to, approval of or acquiescence in any of the foregoing or takes any corporate or other action for the purpose of effecting any of the foregoing.

"Base Conversion Price" shall have the meaning set forth in Section 5(b). "Business Day" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

"Buy-In" shall have the meaning set forth in Section 4(c)(v).

"Change of Control Transaction" means the occurrence after the date hereof of any of (a) an acquisition by an individual or legal entity or "group" (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of the Company, by contract or otherwise) of in excess of 50% of the voting securities of the Company (other than by means of conversion or exercise of the Note and the Securities issued together with the Note), (b) the Company merges into or consolidates with any other Person, or any Person merges into or consolidates with the Company and, after giving effect to such transaction, the stockholders of the Company immediately prior to such transaction own less than 50% of the aggregate voting power of the Company or the successor entity of such transaction, (c) the Company sells or transfers all or substantially all of its assets to another Person and the stockholders of the Company immediately prior to such transaction own less than 50% of the aggregate voting power of the acquiring entity immediately after the transaction, (d) a replacement at one time or within a three year period of more than one-half of the members of the Board of Directors which is not approved by a majority of those individuals who are members of the Board of Directors on the Original Issue Date (or by those individuals who are serving as members of the Board of Directors on any date whose nomination to the Board of Directors was approved by a majority of the members of the Board of Directors who are members on the date hereof), or (e) the execution by the Company of an agreement to which the Company is a party or by which it is bound, providing for any of the events set forth in clauses (a) through (d) above.

"Conversion" shall have the meaning ascribed to such term in Section 4.

"Conversion Date" shall have the meaning set forth in Section 4(a).

"Conversion Price" shall have the meaning set forth in Section 4(b).

"Conversion Schedule" means the Conversion Schedule in the form of Schedule 1 attached hereto.

"Conversion Shares" means, collectively, the shares of Common Stock issuable upon conversion of this Note in accordance with the terms hereof.

"Dilutive Issuance" shall have the meaning set forth in Section 5(b).

"Dilutive Issuance Notice" shall have the meaning set forth in Section 5(b).

"DTC" means the Depository Trust Company.



“DTC/FAST Program” means the DTC’s Fast Automated Securities Transfer Program.

“DWAC” means Deposit Withdrawal at Custodian as defined by the DTC.

“DWAC Eligible” means that (a) the Common Stock is eligible at DTC for full services pursuant to DTC’s Operational Arrangements, including without limitation transfer through DTC’s DWAC system, (b) the Company has been approved (without revocation) by the DTC’s underwriting department, (c) the Transfer Agent is approved as an agent in the DTC/FAST Program, (d) the Conversion Shares are otherwise eligible for delivery via DWAC, and (e) the Transfer Agent does not have a policy prohibiting or limiting delivery of the Conversion Shares via DWAC.

“Effectiveness Period” shall have the meaning set forth in the Registration Rights Agreement.

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

“Fundamental Transaction” shall have the meaning set forth in Section 5(f).

“Late Fees” shall have the meaning set forth in Section 2(d).

“Make-Whole Amount” means, with respect to the applicable date of determination, an amount in cash equal to all of the interest that, but for the applicable conversion or default payment, would have accrued pursuant to Section 2 with respect to the applicable principal amount being so converted or redeemed for the period commencing on the applicable redemption date or Conversion Date or default payment date and ending on the Maturity Date.

“Mandatory Default Amount” means the payment of all outstanding principal and accrued interest, with accrued interest defined as set forth in Section 2(c).

“New York Courts” shall have the meaning set forth in Section 8(d).

“Note Register” shall have the meaning set forth in Section 2(c).

“Notice of Conversion” shall have the meaning set forth in Section 4(a).

“Original Issue Date” means the date of the first issuance of the Note, regardless of any transfers of any Note and regardless of the number of instruments which may be issued to evidence such Note.

“Permitted Indebtedness” means the indebtedness evidenced by the Note.

“Permitted Lien” means the individual and collective reference to the following:

- (a) Liens for taxes, assessments and other governmental charges or levies not yet due or Liens for taxes, assessments and other governmental charges or levies being contested in good faith and by appropriate proceedings for which adequate reserves (in the good faith judgment of the management of the Company) have been established in accordance with GAAP, (b) Liens imposed by law which were incurred in the ordinary course of the Company’s business, such as carriers’, warehousemen’s and mechanics’ Liens, statutory landlords’ Liens, and other similar Liens arising in the ordinary course of the Company’s business, and which (x) do not individually or in the aggregate materially detract from the value of such property or assets or materially impair the use thereof in the operation of the business of the Company and its consolidated Subsidiaries or (y) are being contested in good faith by appropriate proceedings, which proceedings have the effect of preventing for the foreseeable future the forfeiture or sale of the property or asset subject to such Lien and (c) Liens incurred in connection with Permitted Indebtedness.

“Purchase Agreement” means the Securities Purchase Agreement, dated as of June 9, 2015 among the Company and the original Holder, as amended, modified or supplemented from time to time in accordance with its terms.

“Registration Rights Agreement” means the Registration Rights Agreement, dated as of the date of the Purchase Agreement, among the Company and the original Holder, in the form of Exhibit B attached to the Purchase Agreement.

“Registration Statement” means a registration statement meeting the requirements set forth in the Registration Rights Agreement and covering the resale of the Underlying Shares by each Holder as provided for in the Registration Rights Agreement.

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

“Share Delivery Date” shall have the meaning set forth in Section 4(c)(ii).

“Successor Entity” shall have the meaning set forth in Section 5(f).

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

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

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

Section 2. Interest.

a) Payment of Interest in Cash or Kind. The Company shall pay interest to the Holder on the aggregate unconverted and then outstanding principal amount of this Note at the rate of 10% per annum, payable quarterly (as to that principal amount then being converted) and on the Maturity Date in cash or, at the Company’s option, in duly authorized, validly issued, fully paid and non-assessable shares of Common Stock or a combination thereof at the lesser of \$0.15 or the then applicable conversion price.

b) Interest Calculations. Interest shall be calculated on the basis of a 360-day year, consisting of twelve 30 calendar day periods, and shall accrue daily commencing on the Original Issue Date until payment in full of the outstanding principal, together with all accrued and unpaid interest, liquidated damages and other amounts which may become due hereunder, has been made. Payment of interest in shares of Common Stock shall otherwise occur pursuant to Section 4(c)(ii) herein. Interest hereunder will be paid to the Person in whose name this Note is registered on the records of the Company regarding registration and transfers of this Note (the “Note Register”). Except as otherwise provided herein, if at any time the Company pays interest partially in cash and partially in shares of Common Stock to the holder of the Note, then such payment of cash shall be distributed ratably among the holders of the then-outstanding Note based on their (or their predecessor’s) initial purchases of Note pursuant to the Purchase Agreement.

c) Late Fee. All overdue accrued and unpaid interest to be paid hereunder shall entail a late fee at an interest rate equal to the lesser of 18% per annum or the maximum rate permitted by applicable law (the “Late Fees”) which shall accrue daily from the date such interest is due hereunder through and including the date of actual payment in full.

d) Reserved.

e) Prepayment. Subject to Section 7 herein, prior to the one (1) year anniversary of the Original Issue Date, but not before the six (6) month anniversary of the Original Issue Date, upon ten (10) days written notice to the Holder, the Company may prepay any portion of the principal amount of this Note and any accrued and unpaid interest. If the Borrower exercises its right to prepay the Note, the Borrower shall make payment to the Holder of an amount in cash equal to the sum of the then outstanding principal amount of this Note and interest multiplied by 115%. The Holder may continue to convert the Note from the date notice of the prepayment is given until the date of the prepayment.

Section 3. Registration of Transfers and Exchanges.

a) Different Denominations. This Note is exchangeable for an equal aggregate principal amount of Notes of different authorized denominations, as requested by the Holder surrendering the same. No service charge will be payable for such registration of transfer or exchange.

b) Investment Representations. This Note has been issued subject to certain investment representations of the original Holder set forth in the Purchase Agreement and may be transferred or exchanged only in compliance with the Purchase Agreement and applicable federal and state securities laws and regulations.

c) Reliance on Note Register. Prior to due presentment for transfer to the Company of this Note, the Company and any agent of the Company may treat the Person in whose name this Note is duly registered on the Note Register as the owner hereof for the purpose of receiving payment as herein provided and for all other purposes, whether or not this Note is overdue, and neither the Company nor any such agent shall be affected by notice to the contrary.

Section 4. Conversion.

a) Voluntary Conversion. This Note shall be convertible, in whole or in part, into shares of Common Stock at the option of the Holder, at any time and from time to time. The Holder shall effect conversions by delivering to the Company a Notice of Conversion, the form of which is attached hereto as Annex A (each, a "Notice of Conversion"), specifying therein the principal amount of this Note to be converted and accrued interest as of the date on which such conversion shall be effected (such date, the "Conversion Date"). If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion is deemed delivered hereunder. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. To effect conversions hereunder, the Holder shall not be required to physically surrender this Note to the Company unless the entire principal amount of this Note, plus all accrued and unpaid interest thereon, has been so converted. Conversions hereunder shall have the effect of lowering the outstanding principal amount of this Note in an amount equal to the applicable conversion. The Holder and the Company shall maintain records showing the principal amount(s) converted and the date of such conversion(s). The Company may deliver an objection to any Notice of Conversion within one (1) Business Day of delivery of such Notice of Conversion. In the event of any dispute or discrepancy, the records of the Holder shall be controlling and determinative in the absence of manifest error. **The Holder, and any assignee by acceptance of this Note, acknowledge and agree that, by reason of the provisions of this paragraph, following conversion of a portion of this Note, the unpaid and unconverted principal amount of this Note may be less than the amount stated on the face hereof.**

b) Conversion Price. The conversion price in effect on any Conversion Date shall be equal to **\$0.15** (the "Conversion Price"). All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or similar transaction that proportionately decreases or increases the Common Stock during such measuring period. Nothing herein shall limit a Holder's right to pursue actual damages or declare an Event of Default pursuant to Section 6 hereof and the Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit the Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

c) Mechanics of Conversion.

i. Conversion Shares Issuable Upon Conversion of Principal Amount. The number of Conversion Shares issuable upon a conversion hereunder shall be determined by the quotient obtained by dividing (x) the outstanding principal amount of this Note to be converted by (y) the Conversion Price.

ii. Delivery of Certificate Upon Conversion. Not later than three (3) Trading Days after each Conversion Date (the "Share Delivery Date"), the Company shall deliver, or cause to be delivered, to the Holder (A) a certificate or certificates representing the Conversion Shares which, on or after the earlier of (i) the six month anniversary of the Original Issue Date or (ii) the Effective Date, shall be free of restrictive legends and trading restrictions (other than those which may then be required by the Purchase Agreement) representing the number of Conversion Shares being acquired upon the conversion of this Note, (B) a bank check in the amount of accrued and unpaid interest (if the Company has elected or is required to pay accrued interest in cash) and (C) a bank check in the amount of the Make-Whole Amount. All certificate or certificates required to be delivered by the Company under this Section 4(c) shall be delivered electronically through the Depository Trust Company or another established clearing corporation performing similar functions. If the Conversion Date is prior to the earlier of (i) the six month anniversary of the Original Issue Date or (ii) the Effective Date, then the Conversion Shares shall bear a restrictive legend in the following form, as appropriate:

"NEITHER THE ISSUANCE AND SALE OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE NOR THE SECURITIES INTO WHICH THESE SECURITIES ARE EXERCISABLE HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED (I) IN THE ABSENCE OF (A) AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR (B) AN OPINION OF COUNSEL (WHICH COUNSEL SHALL BE SELECTED BY THE HOLDER), IN A GENERALLY ACCEPTABLE FORM, THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT OR (II) UNLESS SOLD PURSUANT TO RULE 144 OR RULE 144A UNDER SAID ACT. NOTWITHSTANDING THE FOREGOING, THE SECURITIES MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY THE SECURITIES."

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

iv. Obligation Absolute: Partial Liquidated Damages. The Company's obligations to issue and deliver the Conversion Shares upon conversion of this Note in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance which might otherwise limit such obligation of the Company to the Holder in connection with the issuance of such Conversion Shares; provided, however, that such delivery shall not operate as a waiver by the Company of any such action the Company may have against the Holder. In the event the Holder of this Note shall elect to convert any or all of the outstanding principal amount hereof, the Company may not refuse conversion based on any claim that the Holder or anyone associated or affiliated with the Holder has been engaged in any violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and or enjoining conversion of all or part of this Note shall have been sought and obtained, and the Company posts a surety bond for the benefit of the Holder in the amount of 150% of the outstanding principal amount of this Note, which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to the Holder to the extent it obtains judgment. In the absence of such injunction, the Company shall issue Conversion Shares or, if applicable, cash, upon a properly noticed conversion. If the Company fails for any reason to deliver to the Holder such certificate or certificates pursuant to Section 4(c)(ii) by the Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of principal amount being converted, \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth (5th) Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Share Delivery Date until such certificates are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages or declare an Event of Default pursuant to Section 6 hereof for the Company's failure to deliver Conversion Shares within the period specified herein and the Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit the Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

v. Compensation for Buy-In on Failure to Timely Deliver Certificates Upon Conversion. In addition to any other rights available to the Holder, if the Company fails for any reason to deliver to the Holder such certificate or certificates by the Share Delivery Date pursuant to Section 4(c)(ii), and if after such Share Delivery Date the Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Conversion Shares which the Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then the Company shall (A) pay in cash to the Holder (in addition to any other remedies available to or elected by the Holder) the amount, if any, by which (x) the Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that the Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of the Holder, either reissue (if surrendered) this Note in a principal amount equal to the principal amount of the attempted conversion (in which case such conversion shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued if the Company had timely complied with its delivery requirements under Section 4(c)(ii). For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted conversion of this Note with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of \$10,000 under clause (A) of the immediately preceding sentence, the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver certificates representing shares of Common Stock upon conversion of this Note as required pursuant to the terms hereof.

vi. Reservation of Shares Issuable Upon Conversion. The Company covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock a number of shares of Common Stock at least equal to 200% of the Required Minimum (to be adjusted quarterly) for the sole purpose of covering the Underlying Shares (subject to the terms and conditions set forth in the Purchase Agreement). The Company covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable and, if the Registration Statement is then effective under the Securities Act, shall be registered for public resale in accordance with such Registration Statement (subject to such Holder's compliance with its obligations under the Section 4.17 of the Purchase Agreement).

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

viii. Transfer Taxes and Expenses. The issuance of certificates for shares of the Common Stock on conversion of this Note shall be made without charge to the Holder hereof for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such certificates, provided that, the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such certificate upon conversion in a name other than that of the Holder of this Note so converted and the Company shall not be required to issue or deliver such certificates unless or until the Person or Persons requesting the issuance thereof shall have paid to the Company the amount of such tax or shall have established to the satisfaction of the Company that such tax has been paid. The Company shall pay all Transfer Agent fees required for same- day processing of any Notice of Conversion.

Section 5. Certain Adjustments.

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

b) Subsequent Equity Sales. If, at any time while this Note is outstanding, the Company or any Subsidiary, as applicable, sells or grants any option to purchase or sells or grants any right to reprice, or otherwise disposes of or issues (or announces any sale, grant or any option to purchase or other disposition), any Common Stock or Common Stock Equivalents entitling any Person to acquire shares of Common Stock at an effective price per share that is lower (after accounting for stock splits and similar adjustments) than the then Conversion Price (such lower price, the "Base Conversion Price" and such issuances, collectively, a "Dilutive Issuance") (if the holder of the Common Stock or Common Stock Equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive shares of Common Stock at an effective price per share that is lower than the Conversion Price, such issuance shall be deemed to have occurred for less than the Conversion Price on such date of the Dilutive Issuance), then the Conversion Price shall be reduced to equal the Base Conversion Price. Such adjustment shall be made whenever such Common Stock or Common Stock Equivalents are issued. Notwithstanding the foregoing, no adjustment will be made under this Section 5(b) in respect of an Exempt Issuance. If the Company enters into a Variable Rate Transaction, despite the prohibition set forth in the Purchase Agreement, the Company shall be deemed to have issued Common Stock or Common Stock Equivalents at the lowest possible conversion price at which such securities may be converted or exercised. The Company shall notify the Holder in writing, no later than the Trading Day following the issuance of any Common Stock or Common Stock Equivalents subject to this Section 5(b), indicating therein the applicable issuance price, or applicable reset price, exchange price, conversion price and other pricing terms (such notice, the "Dilutive Issuance Notice"). For purposes of clarification, whether or not the Company provides a Dilutive Issuance Notice pursuant to this Section 5(b), upon the occurrence of any Dilutive Issuance, the Holder is entitled to receive a number of Conversion Shares based upon the Base Conversion Price on or after the date of such Dilutive Issuance, regardless of whether the Holder accurately refers to the Base Conversion Price in the Notice of Conversion.

c) Preemptive Rights.

i. From the date hereof until the date that is the 12-month anniversary of the last Closing, upon any issuance by the Company of Common Stock, Common Stock Equivalents or debt for cash consideration, Indebtedness or a combination of units thereof (a "Subsequent Financing"), the Holder shall have the right to participate in an amount equal to up to 100% of the Subsequent Financing (the "Participation Maximum") on the same terms, conditions and price provided for in the Subsequent Financing.

ii. At least five (5) Trading Days prior to the closing of the Subsequent Financing, the Company shall deliver to the Holder a written notice of its intention to effect a Subsequent Financing ("Pre-Notice"), which Pre-Notice shall ask the Holder if it wants to review the details of such financing (such additional notice, a "Subsequent Financing Notice"). Upon the request of the Holder, and only upon a request by the Holder, for a Subsequent Financing Notice, the Company shall promptly, but no later than one (1) Trading Day after such request, deliver a Subsequent Financing Notice to the Holder. The Subsequent Financing Notice shall describe in reasonable detail the proposed terms of such Subsequent Financing, the amount of proceeds intended to be raised thereunder and the Person or Persons through or with whom such Subsequent Financing is proposed to be effected and shall include a term sheet or similar document relating thereto as an attachment.

iii. If the Holder desires to participate in such Subsequent Financing, the Holder must provide written notice to the Company that the Holder is willing to participate in the Subsequent Financing, the amount of the Holder's participation, and representing and warranting that the Holder has such funds ready, willing, and available for investment on the terms set forth in the Subsequent Financing Notice.

iv. If notifications by the Holder of its willingness to participate in the Subsequent Financing (or to cause their designees to participate) is, in the aggregate, less than the total amount of the Subsequent Financing, then the Company may effect the remaining portion of such Subsequent Financing on the terms and with the Persons set forth in the Subsequent Financing Notice.

v. The Company must provide the Holder with a second Subsequent Financing Notice, and the Holder will again have the right of participation set forth above in this Section 5(c), if the Subsequent Financing subject to the initial Subsequent Financing Notice is not consummated for any reason on the terms set forth in such Subsequent Financing Notice within thirty (30) Trading Days after the date of the initial Subsequent Financing Notice.

vi. The Company and the Holder agree that if the Holder elects to participate in the Subsequent Financing, the transaction documents related to the Subsequent Financing shall not include any term or provision whereby the Holder shall be required to agree to any restrictions on trading as to any of the Securities purchased hereunder or be required to consent to any amendment to or termination of, or grant any waiver, release or the like under or in connection with, this Agreement, without the prior written consent of such Holder.

vii. Notwithstanding anything to the contrary in this Section 5(c) and unless otherwise agreed to by the Holder, the Company shall either confirm in writing to the Holder that the transaction with respect to the Subsequent Financing has been abandoned or shall publicly disclose its intention to issue the securities in the Subsequent Financing, in either case in such a manner such that such Holder will not be in possession of any material, non-public information, by the tenth (10th) Trading Day following delivery of the Subsequent Financing Notice. If by such tenth (10th) Trading Day, no public disclosure regarding a transaction with respect to the Subsequent Financing has been made, and no notice regarding the abandonment of such transaction has been received by the Holder, such transaction shall be deemed to have been abandoned and the Holder shall not be deemed to be in possession of any material, non-public information with respect to the Company or any of its Subsidiaries viii. Notwithstanding the foregoing, this Section 5(c) shall not apply in respect of an Exempt Issuance.

d) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 5(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of this Note (without regard to any limitations on exercise hereof) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.

e) Pro Rata Distributions. During such time as this Note is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Note, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Note (without regard to any limitations on exercise hereof) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution.

f) Fundamental Transaction. If, at any time while this Note is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, upon any subsequent conversion of this Note, the Holder shall have the right to receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction, the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Note is convertible immediately prior to such Fundamental Transaction. For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one (1) share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any conversion of this Note following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Company under this Note and the Transaction Documents (as defined in the Purchase Agreement) in accordance with the provisions of this Section 5(f) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the holder of this Note, deliver to the Holder in exchange for this Note a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Note which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of this Note (without regard to any limitations on the conversion of this Note) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of this Note immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Note and the other Transaction Documents referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Note and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

g) Calculations. All calculations under this Section 5 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 5, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of the Company) issued and outstanding.

h) Notice to the Holder.

i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 5, the Company shall promptly deliver to each Holder a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

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

Section 6. Events of Default.

a) "Event of Default" means, wherever used herein, any of the following events (whatever the reason for such event and whether such event shall be voluntary or involuntary or effected by operation of law or pursuant to any judgment, decree or order of any court, or any order, rule or regulation of any administrative or governmental body):

i. any default in the payment of (A) the principal amount of any Note or (B) interest, liquidated damages and other amounts owing to a Holder on any Note, as and when the same shall become due and payable (whether on a Conversion Date or the Maturity Date or by acceleration or otherwise) which default, solely in the case of an interest payment or other default under clause (B) above, is not cured within 3 Trading Days;

ii. the Company shall fail to observe or perform any other covenant or agreement contained in the Note (other than a breach by the Company of its obligations to deliver shares of Common Stock to the Holder upon conversion, which breach is addressed in clause (x) below) which failure is not cured, if possible to cure, within the earlier to occur of (A) 20 Trading Days after notice of such failure sent by the Holder or by any other Holder to the Company and (B) 20 Trading Days after the Company has become or should have become aware of such failure;

iii. a default or event of default (subject to any grace or cure period provided in the applicable agreement, document or instrument) shall occur under (A) any of the Transaction Documents or (B) any other material agreement, lease, document or instrument to which the Company or any Subsidiary is obligated (and not covered by clause (vi) below);

iv. any representation or warranty made in this Note, any other Transaction Documents, any written statement pursuant hereto or thereto or any other report, financial statement or certificate made or delivered to the Holder or any other Holder shall be untrue or incorrect in any material respect as of the date when made or deemed made;

v. the Company or any Significant Subsidiary shall be subject to a Bankruptcy Event;

vi. the Company or any Subsidiary shall default on any of its obligations under any mortgage, credit agreement or other facility, indenture agreement, factoring agreement or other instrument under which there may be issued, or by which there may be secured or evidenced, any indebtedness for borrowed money or money due under any long term leasing or factoring arrangement that (a) involves an obligation greater than \$50,000, whether such indebtedness now exists or shall hereafter be created, and (b) results in such indebtedness becoming or being declared due and payable prior to the date on which it would otherwise become due and payable;

vii. the Common Stock shall not be eligible for listing or quotation for trading on a Trading Market and shall not be eligible to resume listing or quotation for trading thereon within 20 Trading Days or the transfer of shares of Common Stock through the Depository Trust Company System is no longer available or "chilled";

viii. the Company shall be a party to any Change of Control Transaction or Fundamental Transaction or shall agree to sell or dispose of all or in excess of 50% of its assets in one transaction or a series of related transactions (whether or not such sale would constitute a Change of Control Transaction), except, in each case, with respect to a transaction between the Company, on the one hand, and the Holder or an Affiliate of the Holder on the other;

ix. if during the Effectiveness Period (as defined in the Registration Rights Agreement), either (a) the effectiveness of the Registration Statement lapses for any reason or (b) the Holder shall not be permitted to resell Registrable Securities (as defined in the Registration Rights Agreement) under the Registration Statement for a period of more than 20 consecutive Trading Days or 30 nonconsecutive Trading Days during any 12 month period; provided, however, that if the Company is negotiating a merger, consolidation, acquisition or sale of all or substantially all of its assets or a similar transaction and, in the written opinion of counsel to the Company, the Registration Statement would be required to be amended to include information concerning such pending transaction(s) or the parties thereto which information is not available or may not be publicly disclosed at the time, the Company shall be permitted an additional 10 consecutive Trading Days during any 12 month period pursuant to this Section 8(a) (ix);

x. the Company shall fail for any reason to deliver certificates via DWAC to a Holder prior to the 10th Trading Day after a Conversion Date pursuant to Section 4(c) or the Company shall provide at any time notice to the Holder, including by way of public announcement, of the Company's intention to not honor requests for conversions of the Note in accordance with the terms hereof;

xi. the Company fails to file with the Commission any required reports under Section 13 or 15(d) of the Exchange Act such that it is not in compliance with Rule 144(c)(1) (or Rule 144(i)(2), if applicable);

xii. if the Borrower or any Significant Subsidiary shall: (i) apply for or consent to the appointment of a receiver, trustee, custodian or liquidator of it or any of its properties, (ii) admit in writing its inability to pay its debts as they mature, (iii) make a general assignment for the benefit of creditors, (iv) be adjudicated a bankrupt or insolvent or be the subject of an order for relief under Title 11 of the United States Code or any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation law or statute of any other jurisdiction or foreign country, or (v) file a voluntary petition in bankruptcy, or a petition or an answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation law or statute, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or (vi) take or permit to be taken any action in furtherance of or for the purpose of effecting any of the foregoing;

xiii. if any order, judgment or decree shall be entered, without the application, approval or consent of the Borrower or any Significant Subsidiary, by any court of competent jurisdiction, approving a petition seeking liquidation or reorganization of the Borrower or any Subsidiary, or appointing a receiver, trustee, custodian or liquidator of the Borrower or any Subsidiary, or of all or any substantial part of its assets, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days;

xiv. the occurrence of any levy upon or seizure or attachment of, or any uninsured loss of or damage to, any property of the Borrower or any Subsidiary having an aggregate fair value or repair cost (as the case may be) in excess of \$500,000, and any such levy, seizure or attachment shall not be set aside, bonded or discharged within sixty (60) days after the date thereof;

xv. the Company shall fail to maintain sufficient reserved shares pursuant to Section 4.11 of the Purchase Agreement; or

xvi. any monetary judgment, writ or similar final process shall be entered or filed against the Company, any subsidiary or any of their respective property or other assets for more than \$50,000, and such judgment, writ or similar final process shall remain unvacated, unbonded or unstayed for a period of 45 calendar days.

b) **Remedies Upon Event of Default.** If any Event of Default occurs, the Company shall have thirty (30) days to cure such Event of Default. If following the thirty (30) day period the Event of Default remains, then the outstanding principal amount of this Note, plus accrued but unpaid interest, liquidated damages and other amounts owing in respect thereof through the date of acceleration, shall become, at the Holder's election, immediately due and payable in cash at the Mandatory Default Amount. Commencing thirty (30) days after the occurrence of any Event of Default that results in the eventual acceleration of this Note, the interest rate on this Note shall accrue at a default rate of interest rate equal to 1.5% per month (18% per annum). Upon the payment in full of the Mandatory Default Amount, the Holder shall promptly surrender this Note to or as directed by the Company. In connection with such acceleration described herein, the Holder need not provide, and the Company hereby waives, any presentment, demand, protest or other notice of any kind, and the Holder may immediately and without expiration of any grace period enforce any and all of its rights and remedies hereunder and all other remedies available to it under applicable law. Such acceleration may be rescinded and annulled by Holder at any time prior to payment hereunder and the Holder shall have all rights as a holder of the Note until such time, if any, as the Holder receives full payment pursuant to this Section 6(b). No such rescission or annulment shall affect any subsequent Event of Default or impair any right consequent thereon.

Section 7. Mandatory Redemption or Conversion.

If a public offering is consummated while this Note is outstanding (the "Public Offering") that results in the Company obtaining financing of seven million dollars (\$7,000,000) or greater, the Holder, at its sole option may: (a) redeem, in cash, the balance of principal and accrued interest, multiplied by 115%, to be paid from the proceeds of the Public Offering; or (b) convert the balance of principal and accrued interest, multiplied by 115%, into Common Stock at the Conversion Price. In such event, the Holder shall execute a lock-up agreement, in a form reasonably satisfactory to Holder, to not sell the Common Stock commencing at the time of the roadshow for the Public Offering and ending three (3) months after the Public Offering closes.

Section 8. Miscellaneous.

a) Notices. Any and all notices or other communications or deliveries to be provided by the Holder hereunder, including, without limitation, any Notice of Conversion, shall be in writing and delivered personally, by facsimile, or sent by a nationally recognized overnight courier service, addressed to the Company, at the address set forth above, or such other facsimile number or address as the Company may specify for such purposes by notice to the Holder delivered in accordance with this Section 8(a). Any and all notices or other communications or deliveries to be provided by the Company hereunder shall be in writing and delivered personally, by facsimile, or sent by a nationally recognized overnight courier service addressed to each Holder at the facsimile number or address of the Holder appearing on the books of the Company, or if no such facsimile number or address appears on the books of the Company, at the principal place of business of such Holder, as set forth in the Purchase Agreement. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (iv) upon actual receipt by the party to whom such notice is required to be given.

b) Absolute Obligation. Except as expressly provided herein, no provision of this Note shall alter or impair the obligation of the Company, which is absolute and unconditional, to pay the principal of, liquidated damages and accrued interest, as applicable, on this Note at the time, place, and rate, and in the coin or currency, herein prescribed. This Note is a direct debt obligation of the Company. This Note ranks pari passu with all other Notes now or hereafter issued under the terms set forth herein.

c) Lost or Mutilated Note. If this Note shall be mutilated, lost, stolen or destroyed, the Company shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated Note, or in lieu of or in substitution for a lost, stolen or destroyed Note, a new Note for the principal amount of this Note so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such Note, and of the ownership hereof, reasonably satisfactory to the Company.

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

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

f) Severability. If any provision of this Note is invalid, illegal or unenforceable, the balance of this Note shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law. The Company covenants (to the extent that it may lawfully do so) that it shall not at any time insist upon, plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay, extension or usury law or other law which would prohibit or forgive the Company from paying all or any portion of the principal of or interest on this Note as contemplated herein, wherever enacted, now or at any time hereafter in force, or which may affect the covenants or the performance of this Note, and the Company (to the extent it may lawfully do so) hereby expressly waives all benefits or advantage of any such law, and covenants that it will not, by resort to any such law, hinder, delay or impede the execution of any power herein granted to the Holder, but will suffer and permit the execution of every such as though no such law has been enacted.

g) Remedies, Characterizations, Other Obligations, Breaches and Injunctive Relief. The remedies provided in this Note shall be cumulative and in addition to all other remedies available under this Note and any of the other Transaction Documents at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the Holder's right to pursue actual and consequential damages for any failure by the Company to comply with the terms of this Note. The Company covenants to the Holder that there shall be no characterization concerning this instrument other than as expressly provided herein. Amounts set forth or provided for herein with respect to payments, conversion and the like (and the computation thereof) shall be the amounts to be received by the Holder and shall not, except as expressly provided herein, be subject to any other obligation of the Company (or the performance thereof). The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the Holder shall be entitled, in addition to all other available remedies, to an injunction restraining any such breach or any such threatened breach, without the necessity of showing economic loss and without any bond or other security being required. The Company shall provide all information and documentation to the Holder that is requested by the Holder to enable the Holder to confirm the Company's compliance with the terms and conditions of this Note.

h) Language. This Note is made in both the English and the Russian languages. In case of any inconsistencies between the English and the Russian versions the English version of this Agreement shall prevail.

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

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

k) Secured Obligation. The obligations of the Company under this Note are secured by all assets of the Company and each Subsidiary pursuant to the Security Agreement, dated as of July 1, 2015 between the Company, the Subsidiaries of the Company and the Secured Parties (as defined therein).

(Signature Pages Follow)

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

XENETIC BIOSCIENCES, INC.

By: /s/ M. S. Maguire

Name: M. S. Maguire

Title: _____

Facsimile o. for delivery of Notices

ANNEX A
NOTICE OF CONVERSION

The undersigned hereby elects to convert principal under the Ten Percent (10%) Senior Secured Collateralized Convertible Promissory Note due July 1, 2016 of Xenetic Biosciences, Inc., a Nevada corporation (the "Company"), into shares of common stock (the "Common Stock"), of the Company according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as reasonably requested by the Company in accordance therewith. No fee will be charged to the holder for any conversion, except for such transfer taxes, if any.

By the delivery of this Notice of Conversion the undersigned represents and warrants to the Company that its ownership of the Common Stock does not exceed the amounts specified under Section 4 of this Note, as determined in accordance with Section 13(d) of the Exchange Act.

The undersigned agrees to comply with the prospectus delivery requirements under the applicable securities laws in connection with any transfer of the aforesaid shares of Common Stock.

Conversion calculations

Date to Effect Conversion

Principal Amount of Note to be Converted

Payment of Interest in Common Stock yes no

If yes, \$ of Interest Accrued on Account of Conversion at Issue.

Number of shares of Common Stock to be issued

Signature:

Name:

DWAC Instructions:

Broker No:

Account No:

Schedule 1

CONVERSION SCHEDULE /TPA

This Ten Percent (10%) Senior Secured Collateralized Convertible Promissory Note due on July 1, 2016 in the original principal amount of \$3,000,000 issued by Xenetic Biosciences, Inc., a Nevada corporation. This Conversion Schedule reflects conversions made under Section 4 of the above referenced Note.

Dated:

Date of Conversion (or for first entry, Original Issue Date)	Amount of Conversion	Aggregate Principal Amount Remaining Subsequent to Conversion (or original Principal Amount)	Company Attest /

Date of Conversion (or for first entry, Original Issue Date)	Amount of Conversion	Aggregate Principal Amount Remaining Subsequent to Conversion (or original Principal Amount)	Company Attest/

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this "Agreement") is made and entered into as of July 1, 2015, between Xenetic Biosciences, Inc., a Nevada corporation (the "Company"), and the purchaser signatory hereto (the "Purchaser").

This Agreement is made pursuant to the Securities Purchase Agreement, dated as of the date hereof, between the Company and the Purchaser (the "Purchase Agreement").

The Company and the Purchaser hereby agrees as follows:

1. Definitions.

Capitalized terms used and not otherwise defined herein that are defined in the Purchase Agreement shall have the meanings given such terms in the Purchase Agreement. As used in this Agreement, the following terms shall have the following meanings:

"Advice" shall have the meaning set forth in Section 6(d).

"Effectiveness Date" means, with respect to the Initial Registration Statement required to be filed hereunder, the 90th calendar day following the filing of the Initial Registration Statement with the Commission, provided, however, that in the event the Company is notified by the Commission that one or more of the above Registration Statements will not be reviewed or is no longer subject to further review and comments, the Effectiveness Date as to such Registration Statement shall be the fifth (5th) Trading Day following the date on which the Company is so notified if such date precedes the dates otherwise required above, provided, further, if such Effectiveness Date falls on a day that is not a Trading Day, then the Effectiveness Date shall be the next succeeding Trading Day.

"Effectiveness Period" shall have the meaning set forth in Section 2(a).

"Event" shall have the meaning set forth in Section 2(g).

"Event Date" shall have the meaning set forth in Section 2(g).

"Holder" means the holder, as the case may be, from time to time of Registrable Securities.

"Indemnified Party" shall have the meaning set forth in Section 5(c).

"Indemnifying Party" shall have the meaning set forth in Section 5(c).

"Initial Registration Statement" means the initial Registration Statement filed pursuant to this Agreement.

"Losses" shall have the meaning set forth in Section 5(a).

"Plan of Distribution" shall have the meaning set forth in Section 2(a).

“Prospectus” means the prospectus included in a Registration Statement (including, without limitation, a prospectus that includes any information previously omitted from a prospectus filed as part of an effective registration statement in reliance upon Rule 430A promulgated by the Commission pursuant to the Securities Act), as amended or supplemented by any prospectus supplement, with respect to the terms of the offering of any portion of the Registrable Securities covered by a Registration Statement, and all other amendments and supplements to the Prospectus, including post-effective amendments, and all material incorporated by reference or deemed to be incorporated by reference in such Prospectus.

“Registrable Securities” means, as of any date of determination, (a) all of the shares of Common Stock then issued and issuable upon conversion in full of the Note (assuming on such date the Note is converted in full without regard to any conversion limitations therein), (b) all shares of Common Stock issued and issuable as interest or principal on the Note assuming all permissible interest and principal payments are made in shares of Common Stock and the Note is held until maturity, (c) all of the shares of Common Stock then issued and issuable upon exercise in full of the Warrants, including any Warrants issuable pursuant to Sections 2.1 and 2.5 of the Purchase Agreement, (assuming on such date the Warrants are converted in full without regard to any conversion limitations therein), (d) any additional shares of Common Stock issued and issuable in connection with any anti-dilution provisions in the Note or Warrants (in each case, without giving effect to any limitations on conversion or exercise set forth in the Note or Warrants) and (e) any securities issued or then issuable upon any stock split, dividend or other distribution, recapitalization or similar event with respect to the foregoing; provided, however, that any such Registrable Securities shall cease to be Registrable Securities (and the Company shall not be required to maintain the effectiveness of any, or file another, Registration Statement hereunder with respect thereto) for so long as (a) a Registration Statement with respect to the sale of such Registrable Securities is declared effective by the Commission under the Securities Act and such Registrable Securities have been disposed of by the Holder in accordance with such effective Registration Statement, (b) such Registrable Securities have been previously sold in accordance with Rule 144, or (c) such securities become eligible for resale without volume or manner-of-sale restrictions and without current public information pursuant to Rule 144 as set forth in a written opinion letter to such effect, addressed, delivered and acceptable to the Transfer Agent and the affected Holder (assuming that such securities and any securities issuable upon exercise, conversion or exchange of which, or as a dividend upon which, such securities were issued or are issuable, were at no time held by any Affiliate of the Company), as reasonably determined by the Company, upon the advice of counsel to the Company.

“Registration Statement” means any registration statement required to be filed hereunder pursuant to Section 2(a) and any additional registration statements contemplated by Section 2 or Section 3(c), including (in each case) the Prospectus, amendments and supplements to any such registration statement or Prospectus, including pre- and post-effective amendments, all exhibits thereto, and all material incorporated by reference or deemed to be incorporated by reference in any such registration statement.

“Rule 415” means Rule 415 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Rule 424” means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Selling Stockholder Questionnaire” shall have the meaning set forth in Section 3(a).

“SEC Guidance” means (i) any publicly- available written or oral guidance of the Commission staff, or any comments, requirements or requests of the Commission staff and (ii) the Securities Act.

2. Registration

(a) Demand Registration Rights as to Closing. The Company shall, upon written demand by the Holders of at least 20% of the then outstanding Registrable Securities, effect the registration of Registrable Securities (for the avoidance of doubt, the Purchaser may deliver a demand for registration under this Section 2(a) whether or not the Purchaser owns Registrable Securities at the time of such request). The Company shall have forty-five (45) days to file the Initial Registration Statement with the Commission. The Registration Statement filed hereunder shall be on Form S-1 and shall contain substantially the “Plan of Distribution” attached hereto as Annex A. If Form S-1 is not available for the registration of the resale of Registrable Securities hereunder, the Company shall (i) register the resale of the Registrable Securities on another appropriate form and (ii) undertake to register the Registrable Securities on Form S-1 as soon as such form is available, provided that the Company shall maintain the effectiveness of the Registration Statement then in effect until such time as a Registration Statement on Form S-1 covering the Registrable Securities has been declared effective by the Commission. Subject to the limitations set forth in Sections 2(c), the Company shall use its best efforts to cause a Registration Statement filed under this Agreement (including, without limitation, under Section 3(c)) to be declared effective under the Securities Act within ninety (90) days after the filing thereof, but in any event no later than the applicable Effectiveness Date, and shall use its best efforts to keep such Registration Statement continuously effective under the Securities Act until all Registrable Securities covered by such Registration Statement (i) have been sold, thereunder or pursuant to Rule 144, or (ii) six (6) months after the Registrable Securities may be sold without volume or manner-of-sale restrictions pursuant to Rule 144 and without the requirement for the Company to be in compliance with the current public information requirement under Rule 144, as determined by the counsel to the Company pursuant to a written opinion letter to such effect, addressed and acceptable to the Transfer Agent and the affected Holder (the “Effectiveness Period”). The Company shall telephonically request effectiveness of a Registration Statement as of 5:00 p.m. Eastern Time on a Trading Day. The Company shall immediately notify the Holder via facsimile or by e-mail of the effectiveness of a Registration Statement on the same Trading Day that the Company telephonically confirms effectiveness with the Commission, which shall be the date requested for effectiveness of such Registration Statement. The Company shall, by 9:30 a.m. Eastern Time on the Trading Day after the effective date of such Registration Statement, file a final Prospectus with the Commission as required by Rule 424. Failure to so notify the Holder within one (1) Trading Day of such notification of effectiveness or failure to file a final Prospectus as foresaid shall be deemed an Event under Section 2(g).

(b) Notwithstanding the registration obligations set forth in Section 2(a), if the Commission informs the Company that all of the Registrable Securities cannot, as a result of the application of Rule 415, be registered for resale as a secondary offering on a single registration statement, the Company agrees to promptly inform the Holder thereof and use its commercially reasonable efforts to file amendments to the Initial Registration Statement as required by the Commission, covering the maximum number of Registrable Securities permitted to be registered by the Commission, on Form S-1 or such other form available to register for resale the Registrable Securities as a secondary offering, subject to the provisions of Section 2(g); with respect to filing on Form S-1 or other appropriate form, and subject to the provisions of Section 2(g) with respect to the payment of liquidated damages; provided, however, that prior to filing such amendment, the Company shall be obligated to use diligent efforts to advocate with the Commission for the registration of all of the Registrable Securities in accordance with the SEC Guidance, including without limitation, Compliance and Disclosure Interpretation 612.09.

(c) Reserved.

(d) Piggyback Registration. If, at any time during the Effectiveness Period, there is not an effective Registration Statement covering all of the Registrable Securities and the Company shall determine to prepare and file with the Commission a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its equity securities, other than on Form S-4 or Form S-8 (each as promulgated under the Securities Act) or their then equivalents relating to equity securities to be issued solely in connection with any acquisition of any entity or business or equity securities issuable in connection with the Company's stock option or other employee benefit plans, then the Company shall deliver to each Holder a written notice of such determination and, if within fifteen days after the date of the delivery of such notice, any such Holder shall so request in writing, the Company shall include in such registration statement all or any part of such Registrable Securities such Holder requests to be registered; provided, however, that the Company shall not be required to register any Registrable Securities pursuant to this Section 2(d) that are eligible for resale pursuant to Rule 144 (without volume restrictions or current public information requirements) promulgated by the Commission pursuant to the Securities Act or that are the subject of a then effective Registration Statement

(e) Allocation of Shares. In connection with any offering under Section 2(d) involving an underwriting, the Company shall not be required to include any Registrable Securities in such underwriting unless the Holder thereof accepts the terms of the underwriting as agreed upon between the Company and the underwriters selected by it. Further, if the managing underwriter advises the Company that, in its view, the number of Registrable Securities requested to be included in such registration exceeds the "Maximum Offering Size" (which shall mean the largest aggregate number of shares which can be sold without having a material adverse effect on such offering, as determined by the managing underwriter), the Company will include in such registration, in the following priority, up to the Maximum Offering Size: first, so many shares of Common Stock proposed to be registered by the Company as would not cause the offering to exceed the Maximum Offering Size; and second, any Registrable Securities requested to be included in such registration by the Purchaser, allocated, if necessary, pro rata on the basis of their relative number of Registrable Securities so held.

(f) Notwithstanding any other provision of this Agreement and subject to the payment of liquidated damages pursuant to Section 2(g), if the Commission or any SEC Guidance sets forth a limitation on the number of Registrable Securities permitted to be registered on a particular Registration Statement as a secondary offering (and notwithstanding that the Company used diligent efforts to advocate with the Commission for the registration of all or a greater portion of Registrable Securities), unless otherwise directed in writing by a Holder as to its Registrable Securities, the number of Registrable Securities to be registered on such Registration Statement will be reduced as follows:

- a. First, the Company shall reduce or eliminate any securities to be included by any Person in any secondary offering other than a Holder;
- b. Second, the Company shall reduce the Registrable Securities; and
- c. Third, the Company shall reduce any securities set to be registered for any primary public offering.

In the event of a cutback hereunder, the Company shall give the Holder at least five (5) Trading Days prior written notice along with the calculations as to such Holder's allotment. In the event the Company amends the Initial Registration Statement in accordance with the foregoing, the Company will use its best efforts to file with the Commission, as promptly as allowed by Commission or SEC Guidance provided to the Company or to registrants of securities in general, one or more registration statements on Form S-1 or such other form available to register for resale those Registrable Securities that were not registered for resale on the Initial Registration Statement, as amended.

(g) If: (i) the Company fails to file with the Commission a request for acceleration of a Registration Statement in accordance with Rule 461 promulgated by the Commission pursuant to the Securities Act, within five (5) Trading Days of the date that the Company is notified (orally or in writing, whichever is earlier) by the Commission that such Registration Statement will not be “reviewed” or will not be subject to further review, or (ii) prior to the effective date of a Registration Statement, the Company fails to file a pre-effective amendment and otherwise respond in writing to comments made by the Commission in respect of such Registration Statement within ten (10) calendar days after the receipt of comments by or notice from the Commission that such amendment is required in order for such Registration Statement to be declared effective, or (iii) a Registration Statement registering for resale all of the Registrable Securities is not declared effective by the Commission by the Effectiveness Date of the Initial Registration Statement, or (iv) after the effective date of a Registration Statement, such Registration Statement ceases for any reason to remain continuously effective as to all Registrable Securities included in such Registration Statement, or the Holder is otherwise not permitted to utilize the Prospectus therein to resell such Registrable Securities, for more than ten (10) consecutive calendar days or more than an aggregate of fifteen (15) calendar days (which need not be consecutive calendar days) during any 12-month period (any such failure or breach being referred to as an “Event”, and for purposes of clause (i) the date on which such five (5) Trading Day period is exceeded, and for purpose of clause (ii) the date which such ten (10) calendar day period is exceeded, and for purpose of clause (iii) the date on which such Event occurs, and for purpose of clause (iv) the date on which such ten (10) or fifteen (15) calendar day period, as applicable, is exceeded being referred to as “Event Date”), then, in addition to any other rights the Holder may have hereunder or under applicable law, on each such Event Date and on each monthly anniversary of each such Event Date (if the applicable Event shall not have been cured by such date) until the applicable Event is cured, the Company shall pay to each Holder an amount in cash, as partial liquidated damages and not as a penalty, equal to the product of 2.0% multiplied by the aggregate Subscription Amount paid by such Holder pursuant to the Purchase Agreement. If the Initial Registration Statement is not filed on or prior to the time periods described in Section 2(a) (if the Company files the Initial Registration Statement without affording the Holder the opportunity to review and comment on the same as required by Section 3(a) herein, the Company shall be deemed to have not satisfied this clause) (the “Filing Event Date”), then in addition to any other rights the Holder may have hereunder or under applicable law, the Company shall pay to each Holder an amount in cash, as partial liquidated damages and not as a penalty, equal to the product of 2.0% multiplied by the aggregate Subscription Amount paid by such Holder pursuant to the Purchase Agreement. Additionally, for each monthly anniversary of such Filing Event Date until the Initial Registration Statement is filed, the Company shall pay to each Holder an amount in cash, as partial liquidated damages and not as a penalty, equal to the product of 1.0% multiplied by the aggregate Subscription Amount paid by such Holder pursuant to the Purchase Agreement. If the Company fails to pay any partial liquidated damages pursuant to this Section in full within seven days after the date payable, the Company will pay interest thereon at a rate of 18% per annum (or such lesser maximum amount that is permitted to be paid by applicable law) to the Holder, accruing daily from the date such partial liquidated damages are due until such amounts, plus all such interest thereon, are paid in full. The partial liquidated damages pursuant to the terms hereof shall apply on a daily pro rata basis for any portion of a month prior to the cure of an Event.

3. Registration Procedures.

In connection with the Company's registration obligations hereunder, the Company shall:

(a) Not less than five (5) Trading Days prior to the filing of each Registration Statement and not less than one (1) Trading Day prior to the filing of any related Prospectus or any amendment or supplement thereto (including any document that would be incorporated or deemed to be incorporated therein by reference), the Company shall (i) furnish to each Holder copies of all such documents proposed to be filed, which documents (other than those incorporated or deemed to be incorporated by reference) will be subject to the review of the Holder, and (ii) cause its officers and directors, counsel and independent registered public accountants to respond to such inquiries as shall be necessary, in the reasonable opinion of respective counsel to each Holder, to conduct a reasonable investigation within the meaning of the Securities Act. Notwithstanding the above, the Company shall not be obligated to provide the Holder advances copies of any universal shelf registration statement registering securities in addition to those required hereunder, or any Prospectus prepared thereto. The Company shall not file a Registration Statement or any such Prospectus or any amendments or supplements thereto to which the Holder of a majority of the Registrable Securities shall reasonably object in good faith, provided that, the Company is notified of such objection in writing no later than five (5) Trading Days after the Holder has been so furnished copies of a Registration Statement or one

(1) Trading Day after the Holder has been so furnished copies of any related Prospectus or amendments or supplements thereto. Each Holder agrees to furnish to the Company a completed questionnaire in the form attached to this Agreement as Annex B (a "Selling Stockholder Questionnaire") on a date that is not less than two (2) Trading Days prior to the Filing Date or by the end of the fourth (4th) Trading Day following the date on which such Holder receives draft materials in accordance with this Section.

(b) (i) Prepare and file with the Commission such amendments, including post-effective amendments, to a Registration Statement and the Prospectus used in connection therewith as may be necessary to keep a Registration Statement continuously effective as to the applicable Registrable Securities for the Effectiveness Period and prepare and file with the Commission such additional Registration Statements in order to register for resale under the Securities Act all of the Registrable Securities, (ii) cause the related Prospectus to be amended or supplemented by any required Prospectus supplement (subject to the terms of this Agreement), and, as so supplemented or amended, to be filed pursuant to Rule 424, (iii) respond as promptly as reasonably possible to any comments received from the Commission with respect to a Registration Statement or any amendment thereto and provide as promptly as reasonably possible to the Holder true and complete copies of all correspondence from and to the Commission relating to a Registration Statement (provided that, the Company shall excise any information contained therein which would constitute material non-public information regarding the Company or any of its Subsidiaries), and

(iv) comply in all material respects with the applicable provisions of the Securities Act and the Exchange Act with respect to the disposition of all Registrable Securities covered by a Registration Statement during the applicable period in accordance (subject to the terms of this Agreement) with the intended methods of disposition by the Holder thereof set forth in such Registration Statement as so amended or in such Prospectus as so supplemented.

(c) If during the Effectiveness Period, the number of Registrable Securities at any time exceeds 100% of the number of shares of Common Stock then registered in a Registration Statement, then the Company shall file as soon as reasonably practicable, but in any case, within thirty

(30) days, an additional Registration Statement covering the resale by the Holder of not less than the number of such Registrable Securities.

(d) Notify the Holder of Registrable Securities to be sold (which notice shall, pursuant to clauses (iii) through (vi) hereof, be accompanied by an instruction to suspend the use of the Prospectus until the requisite changes have been made) as promptly as reasonably possible (and, in the case of (i)(A) below, not less than one (1) Trading Day prior to such filing) and (if requested by any such Person) confirm such notice in writing no later than one (1) Trading Day following the day (i)(A) when a Prospectus or any Prospectus supplement or post-effective amendment to a Registration Statement is proposed to be filed, (B) when the Commission notifies the Company whether there will be a “review” of such Registration Statement and whenever the Commission comments in writing on such Registration Statement, and (C) with respect to a Registration Statement or any post-effective amendment, when the same has become effective, (ii) of any request by the Commission or any other federal or state governmental authority for amendments or supplements to a Registration Statement or Prospectus or for additional information, (iii) of the issuance by the Commission or any other federal or state governmental authority of any stop order suspending the effectiveness of a Registration Statement covering any or all of the Registrable Securities or the initiation of any Proceedings for that purpose, (iv) of the receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Registrable Securities for sale in any jurisdiction, or the initiation or threatening of any Proceeding for such purpose, (v) of the occurrence of any event or passage of time that makes the financial statements included in a Registration Statement ineligible for inclusion therein or any statement made in a Registration Statement or Prospectus or any document incorporated or deemed to be incorporated therein by reference untrue in any material respect or that requires any revisions to a Registration Statement, Prospectus or other documents so that, in the case of a Registration Statement or the Prospectus, as the case may be, it will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, and (vi) of the occurrence or existence of any pending corporate development with respect to the Company that the Company believes may be material and that, in the determination of the Company, makes it not in the best interest of the Company to allow continued availability of a Registration Statement or Prospectus, provided, however, in no event shall any such notice contain any information which would constitute material, non-public information regarding the Company or any of its Subsidiaries.

(e) Use its best efforts to avoid the issuance of, or, if issued, obtain the withdrawal of (i) any order stopping or suspending the effectiveness of a Registration Statement, or (ii) any suspension of the qualification (or exemption from qualification) of any of the Registrable Securities for sale in any jurisdiction, at the earliest practicable moment.

(f) Furnish to each Holder, without charge, at least one conformed copy of each such Registration Statement and each amendment thereto, including financial statements and schedules, all documents incorporated or deemed to be incorporated therein by reference to the extent requested by such Person, and all exhibits to the extent requested by such Person (including those previously furnished or incorporated by reference) promptly after the filing of such documents with the Commission; provided, that any such item which is available on the EDGAR system (or successor thereto) need not be furnished in physical form.

(g) Subject to the terms of this Agreement, the Company hereby consents to the use of such Prospectus and each amendment or supplement thereto by each of the selling Holder in connection with the offering and sale of the Registrable Securities covered by such Prospectus and any amendment or supplement thereto, except after the giving of any notice pursuant to Section 3(d).

(h) The Company shall cooperate with any broker-dealer through which a Holder proposes to resell its Registrable Securities in effecting a filing with the FINRA Corporate Financing Department pursuant to FINRA Rule 5110, as requested by any such Holder, and the Company shall pay the filing fee required by such filing within two (2) Business Days of request therefor.

(i) Prior to any resale of Registrable Securities by a Holder, use its commercially reasonable efforts to register or qualify or cooperate with the selling Holder in connection with the registration or qualification (or exemption from the Registration or qualification) of such Registrable Securities for the resale by the Holder under the securities or Blue Sky laws of such jurisdictions within the United States as any Holder reasonably requests in writing, to keep each registration or qualification (or exemption therefrom) effective during the Effectiveness Period and to do any and all other acts or things reasonably necessary to enable the disposition in such jurisdictions of the Registrable Securities covered by each Registration Statement; provided, that, the Company shall not be required to qualify generally to do business in any jurisdiction where it is not then so qualified, subject the Company to any material tax in any such jurisdiction where it is not then so subject or file a general consent to service of process in any such jurisdiction.

(j) If requested by a Holder, cooperate with such Holder to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be delivered to a transferee pursuant to a Registration Statement, which certificates shall be free, to the extent permitted by the Purchase Agreement, of all restrictive legends, and to enable such Registrable Securities to be in such denominations and registered in such names as any such Holder may request.

(k) Upon the occurrence of any event contemplated by Section 3(d), as promptly as reasonably possible under the circumstances taking into account the Company's good faith assessment of any adverse consequences to the Company and its stockholders of the premature disclosure of such event, prepare a supplement or amendment, including a post-effective amendment, to a Registration Statement or a supplement to the related Prospectus or any document incorporated or deemed to be incorporated therein by reference, and file any other required document so that, as thereafter delivered, neither a Registration Statement nor such Prospectus will contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. If the Company notifies the Holder in accordance with clauses (iii) through (vi) of Section 3(d) above to suspend the use of any Prospectus until the requisite changes to such Prospectus have been made, then the Holder shall suspend use of such Prospectus. The Company will use its best efforts to ensure that the use of the Prospectus may be resumed as promptly as is practicable. The Company shall be entitled to exercise its right under this Section 3(k) to suspend the availability of a Registration Statement and Prospectus, subject to the payment of partial liquidated damages otherwise required pursuant to Section 2(g), for a period not to exceed sixty (60) calendar days (which need not be consecutive days) in any 12-month period.

(l) Comply with all applicable rules and regulations of the Commission.

(m) The Company shall use its best efforts to maintain eligibility for use of Form S-1 (or any successor form thereto) for the registration of the resale of Registrable Securities.

(n) The Company may require each selling Holder to furnish to the Company a certified statement as to the number of shares of Common Stock beneficially owned by such Holder and, if required by the Commission, the natural persons thereof that have voting and dispositive control over the shares. During any periods that the Company is unable to meet its obligations hereunder with respect to the registration of the Registrable Securities solely because any Holder fails to furnish such information within three Trading Days of the Company's request, any liquidated damages that are accruing at such time as to such Holder only shall be tolled and any Event that may otherwise occur solely because of such delay shall be suspended as to such Holder only, until such information is delivered to the Company.

4. Registration Expenses. All fees and expenses incident to the performance of or compliance with, this Agreement by the Company shall be borne by the Company whether or not any Registrable Securities are sold pursuant to a Registration Statement. The fees and expenses referred to in the foregoing sentence shall include, without limitation,

(i) all registration and filing fees (including, without limitation, fees and expenses of the Company's counsel and independent registered public accountants)

(A) with respect to filings made with the Commission, (B) with respect to filings required to be made with any Trading Market on which the Common Stock is then listed for trading, (C) in compliance with applicable state securities or Blue Sky laws reasonably agreed to by the Company in writing (including, without limitation, fees and disbursements of counsel for the Company in connection with Blue Sky qualifications or exemptions of the Registrable Securities) and (D) if not previously paid by the Company in connection with an Issuer Filing, with respect to any filing that may be required to be made by any broker through which a Holder intends to make sales of Registrable Securities with FINRA pursuant to FINRA Rule 5110, so long as the broker is receiving no more than a customary brokerage commission in connection with such sale, (ii) printing expenses (including, without limitation, expenses of printing certificates for Registrable Securities), (iii) messenger, telephone and delivery expenses, (iv) fees and disbursements of counsel for the Company, (v) Securities Act liability insurance, if the Company so desires such insurance, and (vi) fees and expenses of all other Persons retained by the Company in connection with the consummation of the transactions contemplated by this Agreement. In addition, the Company shall be responsible for all of its internal expenses incurred in connection with the consummation of the transactions contemplated by this Agreement (including, without limitation, all salaries and expenses of its officers and employees performing legal or accounting duties), the expense of any annual audit and the fees and expenses incurred in connection with the listing of the Registrable Securities on any securities exchange as required hereunder. In no event shall the Company be responsible for any broker or similar commissions of any Holder or, except to the extent provided for in the Transaction Documents, any legal fees or other costs of the Holder.

5. Indemnification.

(a) Indemnification by the Company. The Company shall, notwithstanding any termination of this Agreement, indemnify and hold harmless each Holder, the officers, directors, members, partners, agents, brokers (including brokers who offer and sell Registrable Securities as principal as a result of a pledge or any failure to perform under a margin call of Common Stock), investment advisors and employees (and any other Persons with a functionally equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title) of each of them, each Person who controls any such Holder (within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act) and the officers, directors, members, stockholders, partners, agents and employees (and any other Persons with a functionally equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title) of each such controlling Person, to the fullest extent permitted by applicable law, from and against any and all losses, claims, damages, liabilities, costs (including, without limitation, reasonable attorneys' fees) and expenses (collectively, "Losses"), as incurred, arising out of or relating to (1) any untrue or alleged untrue statement of a material fact contained in a Registration Statement, any Prospectus or any form of prospectus or in any amendment or supplement thereto or in any preliminary prospectus, or arising out of or relating to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading or (2) any violation or alleged violation by the Company of the Securities Act, the Exchange Act or any state securities law, or any rule or regulation thereunder, in connection with the performance of its obligations under this Agreement, except to the extent, but only to the extent, that (i) such untrue statements or omissions are based solely upon information regarding such Holder furnished in writing to the Company by such Holder expressly for use therein, or to the extent that such information relates to such Holder or such Holder's proposed method of distribution of Registrable Securities and was reviewed and expressly approved in writing by such Holder expressly for use in a Registration Statement, such Prospectus or in any amendment or supplement thereto (it being understood that the Holder has approved Annex A hereto for this purpose) or (ii) in the case of an occurrence of an event of the type specified in Section 3(d)(iii)-(vi), the use by such Holder of an outdated, defective or otherwise unavailable Prospectus after the Company has notified such Holder in writing that the Prospectus is outdated, defective or otherwise unavailable for use by such Holder and prior to the receipt by such Holder of the Advice contemplated in Section 6(d), but only if and to the extent that following the receipt of the Advice the misstatement or omission giving rise to such Loss would have been corrected. The Company shall notify the Holder promptly of the institution, threat or assertion of any Proceeding arising from or in connection with the transactions contemplated by this Agreement of which the Company is aware. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such indemnified person and shall survive the transfer of any Registrable Securities by any of the Holder in accordance with Section 6(g).

(b) Indemnification by Holder. The Holder shall indemnify and hold harmless the Company, its directors, officers, agents and employees, each Person who controls the Company (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, agents or employees of such controlling Persons, to the fullest extent permitted by applicable law, from and against all Losses, as incurred, to the extent arising out of or based solely upon:

(x) the Holder's failure to comply with any applicable prospectus delivery requirements of the Securities Act through no fault of the Company or (y) any untrue or alleged untrue statement of a material fact contained in any Registration Statement, any Prospectus, or in any amendment or supplement thereto or in any preliminary prospectus, or arising out of or relating to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading (i) to the extent, but only to the extent, that such untrue statement or omission is contained in any information so furnished in writing by such Holder to the Company expressly for inclusion in such Registration Statement or such Prospectus or (ii) to the extent, but only to the extent, that such information relates to such Holder's proposed method of distribution of Registrable Securities and was reviewed and expressly approved in writing by such Holder expressly for use in a Registration Statement (it being understood that the Holder has approved Annex A hereto for this purpose), such Prospectus or in any amendment or supplement thereto or (iii) in the case of an occurrence of an event of the type specified in Section 3(d)(iii)-(vi), to the extent, but only to the extent, related to the use by such Holder of an outdated, defective or otherwise unavailable Prospectus after the Company has notified such Holder in writing that the Prospectus is outdated, defective or otherwise unavailable for use by such Holder and prior to the receipt by such Holder of the Advice contemplated in Section 6(d), but only if and to the extent that following the receipt of the Advice the misstatement or omission giving rise to such Loss would have been corrected. In no event shall the liability of any selling Holder under this Section 5(b) be greater in amount than the dollar amount of the net proceeds received by such Holder upon the sale of the Registrable Securities giving rise to such indemnification obligation.

(c) Conduct of Indemnification Proceedings. If any Proceeding shall be brought or asserted against any Person entitled to indemnity hereunder (an "Indemnified Party"), such Indemnified Party shall promptly notify the Person from whom indemnity is sought (the "Indemnifying Party") in writing, and the Indemnifying Party shall have the right to assume the defense thereof, including the employment of counsel reasonably satisfactory to the Indemnified Party and the payment of all fees and expenses incurred in connection with defense thereof; provided, that, the failure of any Indemnified Party to give such notice shall not relieve the Indemnifying Party of its obligations or liabilities pursuant to this Agreement, except (and only) to the extent that it shall be finally determined by a court of competent jurisdiction (which determination is not subject to appeal or further review) that such failure shall have materially and adversely prejudiced the Indemnifying Party.

An Indemnified Party shall have the right to employ separate counsel in any such Proceeding and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party or Parties unless:

(1) the Indemnifying Party has agreed in writing to pay such fees and expenses; (2) the Indemnifying Party shall have failed promptly to assume the defense of such Proceeding and to employ counsel reasonably satisfactory to such Indemnified Party in any such Proceeding; or (3) the named parties to any such Proceeding (including any impleaded parties) include both such Indemnified Party and the Indemnifying Party, and counsel to the Indemnified Party shall reasonably believe that a material conflict of interest is likely to exist if the same counsel were to represent such Indemnified Party and the Indemnifying Party (in which case, if such Indemnified Party notifies the Indemnifying Party in writing that it elects to employ separate counsel at the expense of the Indemnifying Party, the Indemnifying Party shall not have the right to assume the defense thereof and the reasonable fees and expenses of no more than one separate counsel shall be at the expense of the Indemnifying Party). The Indemnifying Party shall not be liable for any settlement of any such Proceeding effected without its written consent, which consent shall not be unreasonably withheld or delayed. No Indemnifying Party shall, without the prior written consent of the Indemnified Party, effect any settlement of any pending Proceeding in respect of which any Indemnified Party is a party, unless such settlement includes an unconditional release of such Indemnified Party from all liability on claims that are the subject matter of such Proceeding.

An Indemnified Party shall have the right to employ separate counsel in any such Proceeding and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party or Parties unless:

(1) the Indemnifying Party has agreed in writing to pay such fees and expenses; (2) the Indemnifying Party shall have failed promptly to assume the defense of such Proceeding and to employ counsel reasonably satisfactory to such Indemnified Party in any such Proceeding; or (3) the named parties to any such Proceeding (including any impleaded parties) include both such Indemnified Party and the Indemnifying Party, and counsel to the Indemnified Party shall reasonably believe that a material conflict of interest is likely to exist if the same counsel were to represent such Indemnified Party and the Indemnifying Party (in which case, if such Indemnified Party notifies the Indemnifying Party in writing that it elects to employ separate counsel at the expense of the Indemnifying Party, the Indemnifying Party shall not have the right to assume the defense thereof and the reasonable fees and expenses of no more than one separate counsel shall be at the expense of the Indemnifying Party). The Indemnifying Party shall not be liable for any settlement of any such Proceeding effected without its written consent, which consent shall not be unreasonably withheld or delayed. No Indemnifying Party shall, without the prior written consent of the Indemnified Party, effect any settlement of any pending Proceeding in respect of which any Indemnified Party is a party, unless such settlement includes an unconditional release of such Indemnified Party from all liability on claims that are the subject matter of such Proceeding.

Subject to the terms of this Agreement, all reasonable fees and expenses of the Indemnified Party (including reasonable fees and expenses to the extent incurred in connection with investigating or preparing to defend such Proceeding in a manner not inconsistent with this Section) shall be paid to the Indemnified Party, as incurred, within ten Trading Days of written notice thereof to the Indemnifying Party; provided, that, the Indemnified Party shall promptly reimburse the Indemnifying Party for that portion of such fees and expenses applicable to such actions for which such Indemnified Party is finally determined by a court of competent jurisdiction (which determination is not subject to appeal or further review) not to be entitled to indemnification hereunder.

(d) Contribution. If the indemnification under Section 5(a) or 5(b) is unavailable to an Indemnified Party or insufficient to hold an Indemnified Party harmless for any Losses, then each Indemnifying Party shall contribute to the amount paid or payable by such Indemnified Party, in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party and Indemnified Party in connection with the actions, statements or omissions that resulted in such Losses as well as any other relevant equitable considerations. The relative fault of such Indemnifying Party and Indemnified Party shall be determined by reference to, among other things, whether any action in question, including any untrue or alleged untrue statement of a material fact or omission or alleged omission of a material fact, has been taken or made by, or relates to information supplied by, such Indemnifying Party or Indemnified Party, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such action, statement or omission. The amount paid or payable by a party as a result of any Losses shall be deemed to include, subject to the limitations set forth in this Agreement, any reasonable attorneys' or other fees or expenses incurred by such party in connection with any Proceeding to the extent such party would have been indemnified for such fees or expenses if the indemnification provided for in this Section was available to such party in accordance with its terms.

The parties hereto agree that it would not be just and equitable if contribution pursuant to this Section 5(d) were determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to in the immediately preceding paragraph. Notwithstanding the provisions of this Section 5(d), no Holder shall be required to contribute pursuant to this Section 5(d), in the aggregate, any amount in excess of the amount by which the net proceeds actually received by such Holder from the sale of the Registrable Securities subject to the Proceeding exceeds the amount of any damages that such Holder has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission.

The indemnity and contribution agreements contained in this Section are in addition to any liability that the Indemnifying Parties may have to the Indemnified Parties.

6. Miscellaneous.

(a) Remedies. In the event of a breach by the Company or by a Holder of any of their respective obligations under this Agreement, the Holder or the Company, as the case may be, in addition to being entitled to exercise all rights granted by law and under this Agreement, including recovery of damages, shall be entitled to specific performance of its rights under this Agreement. Each of the Company and each Holder agrees that monetary damages would not provide adequate compensation for any losses incurred by reason of a breach by it of any of the provisions of this Agreement and hereby further agrees that, in the event of any action for specific performance in respect of such breach, it shall not assert or shall waive the defense that a remedy at law would be adequate.

(b) Prohibition on Filing Other Registration Statements. The Company shall not file any other registration statements until all Registrable Securities are registered pursuant to a Registration Statement that is declared effective by the Commission, provided that this Section 6(b), (i) shall not prohibit the Company from filing amendments to registration statements filed prior to the date of this Agreement and (ii) shall not prohibit the Company from filing a registration statement on Form S-1 for a primary offering by the Company, provided that the Company makes no offering of securities pursuant to such shelf registration statement prior to the effective date of the Registration Statement required hereunder that includes all of the Registrable Securities.

(c) Compliance. The Holder covenants and agrees that it will comply with the prospectus delivery requirements of the Securities Act as applicable to it (unless an exemption therefrom is available) in connection with sales of Registrable Securities pursuant to a Registration Statement.

(d) Discontinued Disposition. By its acquisition of Registrable Securities, the Holder agrees that, upon receipt of a notice from the Company of the occurrence of any event of the kind described in Section 3(d)(iii) through (vi), such Holder will forthwith discontinue disposition of such Registrable Securities under a Registration Statement until it is advised in writing (the "Advice") by the Company that the use of the applicable Prospectus (as it may have been supplemented or amended) may be resumed. The Company will use its best efforts to ensure that the use of the Prospectus may be resumed as promptly as is practicable.

(e) Amendments and Waivers. The provisions of this Agreement, including the provisions of this sentence, may not be amended, modified or supplemented, and waivers or consents to departures from the provisions hereof may not be given, unless the same shall be in writing and signed by the Company and the Holder of 67% or more of the then outstanding Registrable Securities (for purposes of clarification, this includes any Registrable Securities issuable upon exercise or conversion of any Security). If a Registration Statement does not register all of the Registrable Securities pursuant to a waiver or amendment done in compliance with the previous sentence, then the number of Registrable Securities to be registered for the Holder shall be reduced pro rata the Holder shall have the right to designate which of its Registrable Securities shall be omitted from such Registration Statement. Notwithstanding the foregoing, a waiver or consent to depart from the provisions hereof with respect to a matter that relates exclusively to the rights of the Holder may be given only by the Holder of all of the Registrable Securities to which such waiver or consent relates; provided, however, that the provisions of this sentence may not be amended, modified, or supplemented except in accordance with the provisions of the first sentence of this

Section 6(e). No consideration shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of this Agreement unless the same consideration also is offered to all of the parties to this Agreement.

(f) Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be delivered as set forth in the Purchase Agreement.

(g) Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of each of the parties and shall inure to the benefit of each Holder. The Company may not assign (except by merger) its rights or obligations hereunder without the prior written consent of the Holder of the then outstanding Registrable Securities. The Holder may assign their respective rights hereunder in the manner and to the Persons as permitted under Section 5.7 of the Purchase Agreement.

(h) No Inconsistent Agreements. Neither the Company nor any of its Subsidiaries has entered, as of the date hereof, nor shall the Company or any of its Subsidiaries, on or after the date of this Agreement, enter into any agreement with respect to its securities, that would have the effect of impairing the rights granted to the Holder in this Agreement or otherwise conflicts with the provisions hereof. Except as set forth on Schedule 6(h), neither the Company nor any of its Subsidiaries has previously entered into any agreement granting any registration rights with respect to any of its securities to any Person that have not been satisfied in full.

(i) Execution and Counterparts. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that both parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a “.pdf” format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or “.pdf” signature page were an original thereof.

(j) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be determined in accordance with the provisions of the Purchase Agreement.

(k) Language. This Agreement is made in both the English and the Russian languages. In case of any inconsistencies between the English and the Russian versions the English version of this Agreement shall prevail

(l) Cumulative Remedies. The remedies provided herein are cumulative and not exclusive of any other remedies provided by law.

(m) Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

(n) Headings. The headings in this Agreement are for convenience only, do not constitute a part of the Agreement and shall not be deemed to limit or affect any of the provisions hereof.

(o) Independent Nature of Holder's Obligations and Rights. The obligations of each Holder hereunder are several and not joint with the obligations of any other Holder hereunder, and no Holder shall be responsible in any way for the performance of the obligations of any other Holder hereunder. Nothing contained herein or in any other agreement or document delivered at any closing, and no action taken by any Holder pursuant hereto or thereto, shall be deemed to constitute the Holder as a partnership, an association, a joint venture or any other kind of group or entity, or create a presumption that the Holder is in any way acting in concert or as a group or entity with respect to such obligations or the transactions contemplated by this Agreement or any other matters, and the Company acknowledges that the Holder is not acting in concert or as a group, and the Company shall not assert any such claim, with respect to such obligations or transactions. Each Holder shall be entitled to protect and enforce its rights, including without limitation the rights arising out of this Agreement, and it shall not be necessary for any other Holder to be joined as an additional party in any proceeding for such purpose. The use of a single agreement with respect to the obligations of the Company contained was solely in the control of the Company, not the action or decision of any Holder, and was done solely for the convenience of the Company and not because it was required or requested to do so by any Holder. It is expressly understood and agreed that each provision contained in this Agreement is between the Company and the Holder, solely.

(Signature Pages Follow)


IN WITNESS WHEREOF , the parties have executed this Registration Rights Agreement as of the date first written above

XENETIC BIOSCIENCES , INC.

By: /s/ M. S. Maguire
Name: M.S. Maguire
Title:

[SIGNATURE PAGE OF HOLDER TO RRA]

OJSC PharmSynthez



Peter Kruglyakov

Name of Holder: OJSC Parmasynthez

Signature of Authorized Signatory of Holder:

/s/ Peter Kruglyakov
Peter Kruglyakov
Title

Plan of Distribution

Each Selling Stockholder (the “Selling Stockholders”) of the securities and any of their pledgees, assignees and successors-in- interest may, from time to time, sell any or all of their securities covered hereby on the OTC Bulletin Board or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker dealer solicits purchasers;
- block trades in which the broker dealer will attempt to sell the securities 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;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales;
- in transactions through broker dealers that agree with the Selling Stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell securities under Rule 144 under the Securities Act of 1933, as amended (the “Securities Act”), if available, rather than under this prospectus.

Broker dealers engaged by the Selling

Stockholders may arrange for other brokers dealers to participate in sales. Broker dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM- 2440.

In connection with the sale of the securities 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 securities in the course of hedging the positions they assume. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker- dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker- dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed the Company that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

The Company is required to pay certain fees and expenses incurred by the Company incident to the registration of the securities. The Company has agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

Because Selling Stockholders may be deemed to be “underwriters” within the meaning of the Securities Act, they will be subject to the prospectus delivery requirements of the Securities Act including Rule 172 thereunder. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. The Selling Stockholders have advised us that there is no underwriter or coordinating broker acting in connection with the proposed sale of the resale securities by the Selling Stockholders.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the Selling Stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

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

XENETIC BIOSCIENCES, INC.

Selling Stockholder Notice and Questionnaire

The undersigned beneficial owner of common stock (the “Registrable Securities”) of XENETIC BIOSCIENCES, INC. (the “Company”), understands that the Company has filed or intends to file with the Securities and Exchange Commission (the “Commission”) a registration statement (the “Registration Statement”) for the registration and resale under Rule 415 of the Securities Act of 1933, as amended (the “Securities Act”), of the Registrable Securities, in accordance with the terms of the Registration Rights Agreement (the “Registration Rights Agreement”) to which this document is annexed. A copy of the Registration Rights Agreement is available from the Company upon request at the address set forth below. All capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Registration Rights Agreement.

Certain legal consequences arise from being named as a selling stockholder in the Registration Statement and the related prospectus. Accordingly, holders and beneficial owners of Registrable Securities are advised to consult their own securities law counsel regarding the consequences of being named or not being named as a selling stockholder in the Registration Statement and the related prospectus.

NOTICE

The undersigned beneficial owner (the “Selling Stockholder”) of Registrable Securities hereby elects to include the Registrable Securities owned by it in the Registration Statement.

The undersigned hereby provides the following information to the Company and represents and warrants that such information is accurate:

QUESTIONNAIRE

1. Name.

(a) Full Legal Name of Selling Stockholder:

(b) Full Legal Name of Registered Holder (if not the same as (a) above) through which Registrable Securities are held:

(c) Full Legal Name of Natural Control Person (which means a natural person who directly or indirectly alone or with others has power to vote or dispose of the securities covered by this Questionnaire):

2. Address for Notices to Selling Stockholder:

Telephone: Fax: _____
Contact Person: _____

3. Broker-Dealer Status:

(a) Are you a broker-dealer?

Yes No

(b) If “yes” to Section 3(a), did you receive your Registrable Securities as compensation for investment banking services to the Company?

Yes No

Note: If “no” to Section 3(b), the Commission’s staff has indicated that you should be identified as an underwriter in the Registration Statement.

(c) Are you an affiliate of a broker-dealer?

Yes No

(d) If you are an affiliate of a broker-dealer, do you certify that you purchased the Registrable Securities in the ordinary course of business, and at the time of the purchase of the Registrable Securities to be resold, you had no agreements or understandings, directly or indirectly, with any person to distribute the Registrable Securities?

Yes No

Note: If “no” to Section 3(d), the Commission’s staff has indicated that you should be identified as an underwriter in the Registration Statement.

4. Beneficial Ownership of Securities of the Company Owned by the Selling Stockholder .

Except as set forth below in this Item 4, the undersigned is not the beneficial or registered owner of any securities of the Company other than the securities issuable pursuant to the Purchase Agreement.

(a) Type and Amount of other securities beneficially owned by the Selling Stockholder:

5. Relationships with the Company:

Except as set forth below, neither the undersigned nor any of its affiliates, officers, directors or principal equity holders (owners of 5% of more of the equity securities of the undersigned) has held any position or office or has had any other material relationship with the Company (or its predecessors or affiliates) during the past three years.

State any exceptions here:

The undersigned agrees to promptly notify the Company of any inaccuracies or changes in the information provided herein that may occur subsequent to the date hereof at any time while the Registration Statement remains effective.

By signing below, the undersigned consents to the disclosure of the information contained herein in its answers to Items 1 through 5 and the inclusion of such information in the Registration Statement and the related prospectus and any amendments or supplements thereto. The undersigned understands that such information will be relied upon by the Company in connection with the preparation or amendment of the Registration Statement and the related prospectus and any amendments or supplements thereto.

IN WITNESS WHEREOF the undersigned, by authority duly given, has caused this Notice and Questionnaire to be executed and delivered either in person or by its duly authorized agent.

Date: _____

Beneficial Owner

By: _____

Name:

Title:

PLEASE FAX A COPY (OR EMAIL A .PDF COPY) OF THE COMPLETED AND EXECUTED NOTICE AND QUESTIONNAIRE, AND RETURN THE ORIGINAL BY OVERNIGHT MAIL, TO:

SECURITY AGREEMENT

This SECURITY AGREEMENT, dated as of July 1, 2015 (this "Agreement"), is among Xenetic Biosciences, Inc., a Nevada corporation (the "Company"), all of the subsidiaries of the Company (such subsidiaries, the "Guarantors" and together with the Company, the "Debtors") and the holder of the Company's Ten Percent (10%) Senior Secured Collateralized Convertible Promissory Note due twelve (12) months following its issuance, in the original principal amount of \$3,000,000 (the "Note") signatory hereto, its endorsees, transferees and assigns (collectively, the "Secured Parties").

WITNESSETH:

WHEREAS, pursuant to the Purchase Agreement (as defined in the Note), the Secured Parties have agreed to extend the loan to the Company evidenced by the Note;

WHEREAS, pursuant to a certain Subsidiary Guarantee, dated as of the date hereof (the "Guarantee"), the Guarantors have jointly and severally agreed to guarantee and act as surety for payment of such Note; and

WHEREAS, in order to induce the Secured Parties to extend the loan evidenced by the Note, each Debtor has agreed to execute and deliver to the Secured Parties this Agreement and to grant the Secured Parties, pari passu with each other Secured Party and through the Agent (as defined in Section 18 hereof), a security interest in certain property of such Debtor to secure the prompt payment, performance and discharge in full of all of the Company's obligations under the Note and the Guarantors' obligations under the Guarantee.

NOW, THEREFORE, in consideration of the agreements herein contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto hereby agree as follows:

1.Certain Definitions. As used in this Agreement, the following terms shall have the meanings set forth in this Section 1. Terms used but not otherwise defined in this Agreement that are defined in Article 9 of the UCC (such as "account", "chattel paper", "commercial tort claim", "deposit account", "document", "equipment", "fixtures", "general intangibles", "goods", "instruments", "inventory", "investment property", "letter-of- credit rights", "proceeds" and "supporting obligations") shall have the respective meanings given such terms in Article 9 of the UCC.

(a) "Collateral" means the collateral in which the Secured Parties are granted a security interest by this Agreement and which shall include the following personal property of the Debtors, whether presently owned or existing or hereafter acquired or coming into existence, wherever situated, and all additions and accessions thereto and all substitutions and replacements thereof, and all proceeds, products and accounts thereof, including, without limitation, all proceeds from the sale or transfer of the Collateral and of insurance covering the same and of any tort claims in connection therewith, and all dividends, interest, cash, notes, securities, equity interest or other property at any time and from time to time acquired, receivable or otherwise distributed in respect of, or in exchange for, any or all of the Pledged Securities (as defined below) or Pledged Notes (as defined below):

(i) All goods, including, without limitation,

(A) all machinery, equipment, computers, motor vehicles, trucks, tanks, boats, ships, appliances, furniture, special and general tools, fixtures, test and quality control devices and other equipment of every kind and nature and wherever situated, together with all documents of title and documents representing the same, all additions and accessions thereto, replacements therefor, all parts therefor, and all substitutes for any of the foregoing and all other items used and useful in connection with any Debtor's businesses and all improvements thereto; and (B) all inventory;

(ii) All contract rights and other general intangibles, including, without limitation, all partnership interests, membership interests, stock or other securities, rights under any of the Organizational Documents, agreements related to the Pledged Securities, licenses, distribution and other agreements, computer software (whether “off-the-shelf”, licensed from any third party or developed by any Debtor), computer software development rights, leases, franchises, customer lists, quality control procedures, grants and rights, goodwill, Intellectual Property and income tax refunds;

(iii) All accounts, together with all instruments, all documents of title representing any of the foregoing, all rights in any merchandising, goods, equipment, motor vehicles and trucks which any of the same may represent, and all right, title, security and guaranties with respect to each account, including any right of stoppage in transit;

(iv) All documents, letter-of-credit rights, instruments and chattel paper;

(v) All commercial tort claims;

(vi) All deposit accounts and all cash (whether or not deposited in such deposit accounts);

(vii) All investment property;

(viii) All supporting obligations; and

(ix) All files, records, books of account, business papers, and computer programs; and

(x) the products and proceeds of all of the foregoing Collateral set forth in clauses (i)-(ix) above, and all accessions to, substitutions and replacements for, and rents, profits and products of, each of the foregoing, and any and all proceeds of any insurance, indemnity, warranty or guaranty payable to any Debtor from time to time with respect to any of the foregoing.

Without limiting the generality of the foregoing, the “Collateral” shall include all investment property and general intangibles respecting ownership and/or other equity interests in each Guarantor, including, without limitation, the shares of capital stock and the other equity interests listed on Schedule H hereto (as the same may be modified from time to time pursuant to the terms hereof), and any other shares of capital stock and/or other equity interests of any other direct or indirect subsidiary of any Debtor obtained in the future, and, in each case, all certificates representing such shares and/or equity interests and, in each case, all rights, options, warrants, stock, other securities and/or equity interests that may hereafter be received, receivable or distributed in respect of, or exchanged for, any of the foregoing and all rights arising under or in connection with the Pledged Securities or the Pledged Notes, including, but not limited to, all dividends, interest and cash.

Notwithstanding the foregoing, nothing herein shall be deemed to constitute an assignment of any asset which, in the event of an assignment, becomes void by operation of applicable law or the assignment of which is otherwise prohibited by applicable law (in each case to the extent that such applicable law is not overridden by Sections 9-406, 9-407 and/or 9-408 of the UCC or other similar applicable law); provided, however, that to the extent permitted by applicable law, this Agreement shall create a valid security interest in such asset and, to the extent permitted by applicable law, this Agreement shall create a valid security interest in the proceeds of such asset.

(b) “Intellectual Property” means the collective reference to all rights, priorities and privileges relating to intellectual property, whether arising under United States, multinational or foreign laws or otherwise, including, without limitation, (i) all copyrights arising under the laws of the United States, any other country or any political subdivision thereof, whether registered or unregistered and whether published or unpublished, all registrations and recordings thereof, and all applications in connection therewith, including, without limitation, all registrations, recordings and applications in the United States Copyright Office, (ii) all letters patent of the United States, any other country or any political subdivision thereof, all reissues and extensions thereof, and all applications for letters patent of the United States or any other country and all divisions, continuations and continuations-in-part thereof, (iii) all trademarks, trade names, corporate names, company names, business names, fictitious business names, trade dress, service marks, logos, domain names and other source or business identifiers, and all goodwill associated therewith, now existing or hereafter adopted or acquired, all registrations and recordings thereof, and all applications in connection therewith, whether in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country or any political subdivision thereof, or otherwise, and all common law rights related thereto, (iv) all trade secrets arising under the laws of the United States, any other country or any political subdivision thereof, (v) all rights to obtain any reissues, renewals or extensions of the foregoing, (vi) all licenses for any of the foregoing, and (vii) all causes of action for infringement of the foregoing.

(c) “Majority in Interest” means, at any time of determination, the majority in interest (based on then-outstanding principal amounts of Note at the time of such determination) of the Secured Parties.

(d) “Necessary Endorsement” means undated stock powers endorsed in blank or other proper instruments of assignment duly executed and such other instruments or documents as the Agent (as that term is defined below) may reasonably request.

(e) “Obligations” means all of the liabilities and obligations (primary, secondary, direct, contingent, sole, joint or several) due or to become due, or that are now or may be hereafter contracted or acquired, or owing to, of any Debtor to the Secured Parties, including, without limitation, all obligations under this Agreement, the Note, the Guarantee and any other instruments, agreements or other documents executed and/or delivered in connection herewith or therewith, in each case, whether now or hereafter existing, voluntary or involuntary, direct or indirect, absolute or contingent, liquidated or unliquidated, whether or not jointly owed with others, and whether or not from time to time decreased or extinguished and later increased, created or incurred, and all or any portion of such obligations or liabilities that are paid, to the extent all or any part of such payment is avoided or recovered directly or indirectly from any of the Secured Parties as a preference, fraudulent transfer or otherwise as such obligations may be amended, supplemented, converted, extended or modified from time to time. Without limiting the generality of the foregoing, the term “Obligations” shall include, without limitation:

(i) principal of, and interest on the Note and the loan extended pursuant thereto; (ii) any and all other fees, indemnities, costs, obligations and liabilities of the Debtors from time to time under or in connection with this Agreement, the Note, the Guarantee and any other instruments, agreements or other documents executed and/or delivered in connection herewith or therewith; and (iii) all amounts (including but not limited to post-petition interest) in respect of the foregoing that would be payable but for the fact that the obligations to pay such amounts are unenforceable or not allowable due to the existence of a bankruptcy, reorganization or similar proceeding involving any Debtor.

(f) “Organizational Documents” means with respect to any Debtor, the documents by which such Debtor was organized (such as a certificate of incorporation, certificate of limited partnership or articles of organization, and including, without limitation, any certificates of designation for preferred stock or other forms of preferred equity) and which relate to the internal governance of such Debtor (such as bylaws, a partnership agreement or an operating, limited liability or members agreement).

(g) “Pledged Interests” shall have the meaning ascribed to such term in Section 4(j).

(h) “Pledged Notes” means, with respect to each Debtor, all intercompany notes from time to time issued to such Debtor, including the promissory notes described in Schedule I hereto and issued by the obligors named therein, and all interest, cash, instruments and other property, assets or proceeds from time to time received, receivable or otherwise distributed in respect of or in exchange for any or all of such promissory notes and all certificates, instruments or agreements evidencing such promissory notes, and all assignments, amendments, restatements, supplements, extensions, renewals, replacements or modifications thereof.

(i) “Pledged Securities” shall have the meaning ascribed to such term in Section 4(i).

(j) “UCC” means the Uniform Commercial Code from time to time in effect in the State of New York and/or any other applicable law of any state or states which has jurisdiction with respect to all, or any portion of, the Collateral or this Agreement, from time to time. It is the intent of the parties that defined terms in the UCC should be construed in their broadest sense so that the term “Collateral” will be construed in its broadest sense. Accordingly if there are, from time to time, changes to defined terms in the UCC that broaden the definitions, they are incorporated herein and if existing definitions in the UCC are broader than the amended definitions, the existing ones shall be controlling.

2. Grant of Security Interest in Collateral. As an inducement for the Secured Parties to extend the loan as evidenced by the Note and to secure the complete and timely payment, performance and discharge in full, as the case may be (whether at the stated maturity, by acceleration or otherwise), of all of the Obligations, each Debtor hereby unconditionally and irrevocably pledges, grants and hypothecates to the Secured Parties a security interest in and to, a lien upon and a right of set-off against all of their respective right, title and interest of whatsoever kind and nature in and to, the Collateral (a “Security Interest” and, collectively, the “Security Interests”).

3. Delivery of Certain Collateral. Contemporaneously or prior to the execution of this Agreement, each Debtor shall deliver or cause to be delivered to the Agent (a) any and all certificates and other instruments representing or evidencing the Pledged Securities, and (b) any and all certificates and other instruments or documents representing any of the other Collateral (including the Pledged Notes), in each case, together with all Necessary Endorsements. The Debtors are, contemporaneously with the execution hereof, delivering to Agent, or have previously delivered to Agent, a true and correct copy of each Organizational Document governing any of the Pledged Securities.

4. Representations, Warranties, Covenants and Agreements of the Debtors . Except as set forth under the corresponding section of the disclosure schedules delivered to the Secured Parties concurrently herewith (the "Disclosure Schedules"), which Disclosure Schedules shall be deemed a part hereof, (i) each Debtor represents and warrants to, and (ii) from and after the date of this Agreement until all the Obligations shall have been paid and performed in full, each Debtor covenants and agrees with, the Secured Parties as follows:

(a) Each Debtor has the requisite corporate, partnership, limited liability company or other power and authority to enter into this Agreement and otherwise to carry out its obligations hereunder. The execution, delivery and performance by each Debtor of this Agreement and the filings contemplated therein have been duly authorized by all necessary action on the part of such Debtor and no further action is required by such Debtor. This Agreement has been duly executed by each Debtor. This Agreement constitutes the legal, valid and binding obligation of each Debtor, enforceable against each Debtor in accordance with its terms except as such enforceability may be limited by applicable bankruptcy, insolvency, reorganization and similar laws of general application relating to or affecting the rights and remedies of creditors and by general principles of equity.

(b) The Debtors have no place of business or offices where their respective books of account and records are kept (other than temporarily at the offices of its attorneys or accountants) or places where Collateral is stored or located, except as set forth on Schedule A attached hereto. Except as specifically set forth on Schedule A, each Debtor is the record owner of the real property where such Collateral is located, and there exist no mortgages or other liens on any such real property except for Permitted Liens (as defined in the Note). Except as disclosed on Schedule A, none of such Collateral is in the possession of any consignee, bailee, warehouseman, agent or processor.

(c) Except for Permitted Liens (as defined in the Note) and except as set forth on Schedule B attached hereto, the Debtors (i) are the sole owner of the Collateral (except for non-exclusive licenses granted by any Debtor in the ordinary course of business), (ii) have good title to the Collateral, free and clear of any liens, security interests, encumbrances, rights or claims, and (iii) are fully authorized to grant the Security Interests. Except as set forth on Schedule C attached hereto, there is not on file in any governmental or regulatory authority, agency or recording office an effective financing statement, security agreement, license or transfer or any notice of any of the foregoing (other than those that will be filed in favor of the Secured Parties pursuant to this Agreement) covering or affecting any of the Collateral. Except as set forth on Schedule C attached hereto and except pursuant to this Agreement, as long as this Agreement shall be in effect, the Debtors shall not execute and shall not knowingly permit to be on file in any such office or agency any other financing statement or other document or instrument (except to the extent filed or recorded in favor of the Secured Parties pursuant to the terms of this Agreement).

(d) No written claim has been received that any Collateral or any Debtor's use of any Collateral violates the rights of any third party. There has been no adverse decision to any Debtor's claim of ownership rights in or exclusive rights to use the Collateral in any jurisdiction or to any Debtor's right to keep and maintain such Collateral in full force and effect, and there is no proceeding involving said rights pending or, to the best knowledge of any Debtor, threatened before any court, judicial body, administrative or regulatory agency, arbitrator or other governmental authority.

(e) Each Debtor shall at all times maintain its books of account and records relating to the Collateral at its principal place of business and its Collateral at the locations set forth on Schedule A attached hereto and may not relocate such books of account and records or tangible Collateral unless it delivers to the Secured Parties at least 30 days prior to such relocation (i) written notice of such relocation and the new location thereof (which must be within the United States) and (ii) evidence that appropriate financing statements under the UCC and other necessary documents have been filed and recorded and other steps have been taken to perfect the Security Interests to create in favor of the Secured Parties a valid, perfected and continuing perfected first priority lien in the Collateral.

(f) This Agreement creates in favor of the Secured Parties a valid and enforceable security interest in the Collateral, subject only to Permitted Liens (as defined in the Note), securing the payment and performance of the Obligations. Upon making the filings and completing the actions described in the immediately following sentence, all security interests created hereunder in any Collateral shall have been duly perfected. Except for the filing of the Uniform Commercial Code financing statements in the jurisdictions set forth on Schedule J, the recordation of the Intellectual Property Security Agreement (as defined in Section 4(p) hereof) with respect to copyrights and copyright applications in the United States Copyright Office referred to in paragraph (mm), the execution and delivery of deposit account control agreements satisfying the requirements of Section 9-104(a)(2) of the UCC with respect to each deposit account of the Debtors, and the delivery of the certificates and other instruments provided in Section 3, no action is necessary to create, perfect or protect the security interests created hereunder. Without limiting the generality of the foregoing, except for the filing of said financing statements, the recordation of said Intellectual Property Security Agreement, and the execution and delivery of said deposit account control agreements, no consent of any third parties and no authorization, approval or other action by, and no notice to or filing with, any governmental authority or regulatory body is required for (i) the execution, delivery and performance of this Agreement, (ii) the creation or perfection of the Security Interests created hereunder in the Collateral or (iii) the enforcement of the rights of the Agent and the Secured Parties hereunder. The Security Interests granted pursuant to this Agreement are prior to all other liens, security interests and other encumbrances on the Collateral, except for Permitted Liens (as defined in the Note).

(g) Each Debtor hereby authorizes the Agent at any time and from time to time to file one or more financing statements under the UCC and other filing or recording documents or instruments (in each case without the signature of such Debtor), with respect to the Security Interests, with the proper filing and recording agencies in any jurisdiction deemed proper by it. Each Debtor hereby authorizes the Agent to use (at the option of the Agent) the collateral description "all personal property", "all assets" or any similar phrase in any such financing statements.

(h) The execution, delivery and performance of this Agreement by the Debtors does not (i) violate any of the provisions of any Organizational Documents of any Debtor or any judgment, decree, order or award of any court, governmental body or arbitrator or any applicable law, rule or regulation applicable to any Debtor, (ii) conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) of, any agreement, credit facility, debt or other instrument (evidencing any Debtor's debt or otherwise) or other understanding to which any Debtor is a party or by which any property or asset of any Debtor is bound or affected or (iii) result in or require the creation or imposition of any lien, security interest or other encumbrance on any property or asset of any Debtor pursuant to any applicable law or contractual obligation, other than Permitted Liens (as defined in the Note). If any, all required consents (including, without limitation, from stockholders or creditors of any Debtor) necessary for any Debtor to enter into and perform its obligations hereunder have been obtained.

(i) The capital stock and other equity interests (including, for the avoidance of doubt, the Pledged Interests, if any) listed on Schedule H hereto (the "Pledged Securities") represent (A) all of the capital stock and other equity interests owned, directly or indirectly, by the Guarantors, and (B) all capital stock and other equity interests owned, directly or indirectly, by the Company (including all of the capital stock and other equity interests of the Guarantors owned, directly or indirectly, by the Company). All of the Pledged Securities are validly issued, fully paid and nonassessable, and each Debtor is the legal and beneficial owner of the Pledged Securities pledged by it hereunder, free and clear of any lien, security interest or other encumbrance except for the security interests created by this Agreement and other Permitted Liens (as defined in the Note). The Guarantors party to this Agreement constitute all of the direct and indirect subsidiaries of the Company and each other Debtor.

(j) The ownership and other equity interests in partnerships and limited liability companies (if any) included in the Collateral (the “Pledged Interests”) by their express terms do not provide that they are securities governed by Article 8 of the UCC and are not held in a securities account or by any financial intermediary.

(k) Except for Permitted Liens (as defined in the Note), each Debtor shall at all times maintain the liens and Security Interests provided for hereunder as valid and perfected first priority liens and security interests in the Collateral in favor of the Secured Parties until this Agreement and the Security Interests hereunder shall be terminated pursuant to Section 14 hereof. Each Debtor hereby agrees to defend the same against the claims of any and all persons and entities. Each Debtor shall safeguard and protect all Collateral for the account of the Secured Parties. At the request of the Agent, each Debtor will deliver to the Agent on behalf of the Secured Parties at any time or from time to time one or more financing statements pursuant to the UCC in form reasonably satisfactory to the Agent and will pay the cost of filing financing statements and other filing or recording documents and instruments in all public offices wherever filing is, or is deemed by the Agent to be, necessary or desirable to effect the rights and obligations provided for herein. Without limiting the generality of the foregoing, each Debtor shall pay all fees, taxes and other amounts necessary to maintain the Collateral and the Security Interests hereunder, and each Debtor shall obtain and furnish to the Agent from time to time, upon demand, such releases and/or subordinations of claims and liens which may be required to maintain the priority of the Security Interests hereunder.

(l) No Debtor will transfer, pledge, hypothecate, encumber, license, sell or otherwise dispose of any of the Collateral (except for non-exclusive licenses granted by a Debtor in its ordinary course of business and sales of inventory by a Debtor in its ordinary course of business) without the prior written consent of a Majority in Interest.

(m) Each Debtor shall keep and preserve its equipment, inventory and other tangible Collateral in good condition, repair and order and shall not operate or locate any such Collateral (or cause to be operated or located) in any area excluded from insurance coverage.

(n) Each Debtor shall maintain with financially sound and reputable insurers, insurance with respect to the Collateral, including Collateral hereafter acquired, against loss or damage of the kinds and in the amounts customarily insured against by entities of established reputation having similar properties similarly situated and in such amounts as are customarily carried under similar circumstances by other such entities and otherwise as is prudent for entities engaged in similar businesses but in any event sufficient to cover the full replacement cost thereof. Each Debtor shall cause each insurance policy issued in connection herewith to provide, and the insurer issuing such policy to certify to the Agent, that (a) the Agent will be named as lender loss payee and additional insured under each such insurance policy; (b) if such insurance is proposed to be cancelled or materially changed for any reason whatsoever, such insurer will promptly notify the Agent and such cancellation or change shall not be effective as to the Agent for at least thirty (30) days after receipt by the Agent of such notice, unless the effect of such change is to extend or increase coverage under the policy; and (c) the Agent will have the right (but no obligation) at its election to remedy any default in the payment of premiums within thirty (30) days of notice from the insurer of such default. If no Event of Default (as defined in the Note) exists and if the proceeds arising out of any claim or series of related claims do not exceed \$50,000, loss payments in each instance will be applied by the applicable Debtor to the repair and/or replacement of property with respect to which the loss was incurred to the extent reasonably feasible, and any loss payments or the balance thereof remaining, to the extent not so applied, shall be payable to the applicable Debtor; provided, however, that payments received by any Debtor after an Event of Default occurs and is continuing or in excess of \$50,000 for any occurrence or series of related occurrences shall be paid to the Agent on behalf of the Secured Parties and, if received by such Debtor, shall be held in trust for the Secured Parties and immediately paid over to the Agent unless otherwise directed in writing by the Agent. Copies of such policies or the related certificates, in each case, naming the Agent as lender loss payee and additional insured shall be delivered to the Agent at least annually and at the time any new policy of insurance is issued.

(o) Each Debtor shall, within ten (10) days of obtaining knowledge thereof, advise the Secured Parties promptly, in sufficient detail, of any material adverse change in the Collateral, and of the occurrence of any event which would have a material adverse effect on the value of the Collateral or on the Secured Parties' security interest, through the Agent, therein.

(p) Each Debtor shall promptly execute and deliver to the Agent such further deeds, mortgages, assignments, security agreements, financing statements or other instruments, documents, certificates and assurances and take such further action as the Agent may from time to time request and may in its sole discretion deem necessary to perfect, protect or enforce the Secured Parties' security interest in the Collateral including, without limitation, if applicable, the execution and delivery of a separate security agreement with respect to each Debtor's Intellectual Property ("Intellectual Property Security Agreement") in which the Secured Parties have been granted a security interest hereunder, substantially in a form reasonably acceptable to the Agent, which Intellectual Property Security Agreement, other than as stated therein, shall be subject to all of the terms and conditions hereof.

(q) Each Debtor shall permit the Agent and its representatives and agents to inspect the Collateral during normal business hours and upon reasonable prior notice, and to make copies of records pertaining to the Collateral as may be reasonably requested by the Agent from time to time.

(r) Each Debtor shall take all steps reasonably necessary to diligently pursue and seek to preserve, enforce and collect any rights, claims, causes of action and accounts receivable in respect of the Collateral.

(s) Each Debtor shall promptly notify the Secured Parties in sufficient detail upon becoming aware of any attachment, garnishment, execution or other legal process levied against any Collateral and of any other information received by such Debtor that may materially affect the value of the Collateral, the Security Interest or the rights and remedies of the Secured Parties hereunder.

(t) All information heretofore, herein or hereafter supplied to the Secured Parties by or on behalf of any Debtor with respect to the Collateral is accurate and complete in all material respects as of the date furnished.

(u) The Debtors shall at all times preserve and keep in full force and effect their respective valid existence and good standing and any rights and franchises material to its business.

(v) No Debtor will change its name, type of organization, jurisdiction of organization, organizational identification number (if it has one), legal or corporate structure, or identity, or add any new fictitious name unless it provides at least 30 days prior written notice to the Secured Parties of such change and, at the time of such written notification, such Debtor (i) provides any financing statements, fixture filings or other documents or instruments necessary to perfect and continue the perfection of the Security Interests granted and evidenced by this Agreement and (ii) ensures that such change will not adversely affect the perfection or priority of the Security Interests granted and evidenced by this Agreement.

(w) Except in the ordinary course of business, no Debtor may consign any of its inventory or sell any of its inventory on bill and hold, sale or return, sale on approval, or other conditional terms of sale without the consent of the Agent which shall not be unreasonably withheld.

(x) No Debtor may relocate its chief executive office to a new location without providing thirty (30) days prior written notification thereof to the Secured Parties and so long as, at the time of such written notification, such Debtor (i) provides any financing statements, fixture filings or other documents or instruments necessary to perfect and continue the perfection of the Security Interests granted and evidenced by this Agreement and (ii) ensures that such relocation will not adversely affect the perfection or priority of the Security Interests granted and evidenced by this Agreement.

(y) Each Debtor was organized and remains organized solely under the laws of the jurisdiction set forth next to such Debtor's name in Schedule D attached hereto, which Schedule D sets forth each Debtor's organizational identification number or, if any Debtor does not have one, states that one does not exist.

(z) (i) The full and correct legal name of each Debtor is the name set forth in Schedule D attached hereto; (ii) no Debtor has any trade names except as set forth on Schedule E attached hereto; (iii) no Debtor has used any name other than that stated in the preamble hereto or as set forth on Schedule E for the preceding five (5) years; and (iv) no entity has merged into any Debtor or been acquired by any Debtor within the past five years except as set forth on Schedule E.

(aa) At any time and from time to time that any Collateral consists of instruments, certificated securities or other items that require or permit possession by the secured party to perfect the security interest created hereby, the applicable Debtor shall deliver such Collateral to the Agent.

(bb) Each Debtor, in its capacity as issuer, hereby agrees to comply with any and all orders and instructions of Agent regarding the Pledged Securities consistent with the terms of this Agreement without the further consent of any Debtor as contemplated by Section 8-106 (or any successor section) of the UCC. Further, each Debtor agrees that it shall not enter into a similar agreement (or one that would confer "control" within the meaning of Article 8 of the UCC) with any other person or entity.

(cc) Each Debtor shall cause all tangible chattel paper constituting Collateral to be delivered to the Agent, or, if such delivery is not possible, then to cause such tangible chattel paper to contain a legend noting that it is subject to the security interest created by this Agreement. To the extent that any Collateral consists of electronic chattel paper, the applicable Debtor shall cause the underlying chattel paper to be "marked" within the meaning of Section 9-105 of the UCC (or successor section thereto).

(dd) If there is any investment property or deposit account included as Collateral that can be perfected by "control" through an account control agreement, the applicable Debtor shall cause such an account control agreement, in form and substance in each case satisfactory to the Agent, to be entered into and delivered to the Agent for the benefit of the Secured Parties.

(ee) To the extent that any Collateral consists of letter-of-credit rights, the applicable Debtor shall cause the issuer of each underlying letter of credit to consent to an assignment of the proceeds thereof to the Secured Parties.

(ff) To the extent that any Collateral is in the possession of any third party, the applicable Debtor shall join with the Agent in notifying such third party of the Secured Parties' security interest in such Collateral and shall use its best efforts to obtain an acknowledgement and agreement from such third party with respect to the Collateral, in form and substance reasonably satisfactory to the Agent.

(gg) If any Debtor shall at any time hold or acquire a commercial tort claim, such Debtor shall promptly notify the Secured Parties in a writing signed by such Debtor of the particulars thereof and grant to the Secured Parties in such writing a security interest therein and in the proceeds thereof, all upon the terms of this Agreement, with such writing to be in form and substance satisfactory to the Agent. As of the date of this Agreement, no Debtor holds a commercial tort claim.

(hh) Each Debtor shall immediately provide written notice to the Secured Parties of any and all accounts which arise out of contracts with any governmental authority and, to the extent necessary to perfect or continue the perfected status of the Security Interests in such accounts and proceeds thereof, shall execute and deliver to the Agent an assignment of claims for such accounts and cooperate with the Agent in taking any other steps required, in its judgment, under the Federal Assignment of Claims Act or any similar federal, state or local statute or rule to perfect or continue the perfected status of the Security Interests in such accounts and proceeds thereof.

(ii) Each Debtor shall cause each subsidiary of such Debtor to immediately become a party hereto (an “Additional Debtor”), by executing and delivering an Additional Debtor Joinder in substantially the form of Annex A attached hereto and comply with the provisions hereof applicable to the Debtors. Concurrent therewith, the Additional Debtor shall deliver replacement schedules for, or supplements to all other Schedules to (or referred to in) this Agreement, as applicable, which replacement schedules shall supersede, or supplements shall modify, the Schedules then in effect. The Additional Debtor shall also deliver such opinions of counsel, authorizing resolutions, good standing certificates, incumbency certificates, organizational documents, financing statements and other information and documentation as the Agent may reasonably request. Upon delivery of the foregoing to the Agent, the Additional Debtor shall be and become a party to this Agreement with the same rights and obligations as the Debtors, for all purposes hereof as fully and to the same extent as if it were an original signatory hereto and shall be deemed to have made the representations, warranties and covenants set forth herein as of the date of execution and delivery of such Additional Debtor Joinder, and all references herein to the “Debtors” shall be deemed to include each Additional Debtor.

(jj) Each Debtor shall vote the Pledged Securities to comply with the covenants and agreements set forth herein and in the Note.

(kk) Each Debtor shall register the pledge of the applicable Pledged Securities on the books of such Debtor. Each Debtor shall notify each issuer of Pledged Securities to register the pledge of the applicable Pledged Securities in the name of the Secured Parties on the books of such issuer. Further, except with respect to certificated securities delivered to the Agent, the applicable Debtor shall deliver to Agent an acknowledgement of pledge (which, where appropriate, shall comply with the requirements of the relevant UCC with respect to perfection by registration) signed by the issuer of the applicable Pledged Securities, which acknowledgement shall confirm that: (a) it has registered the pledge on its books and records; and (b) at any time directed by Agent during the continuation of an Event of Default, such issuer will transfer the record ownership of such Pledged Securities into the name of any designee of Agent, will take such steps as may be necessary to effect the transfer, and will comply with all other instructions of Agent regarding such Pledged Securities without the further consent of the applicable Debtor.

(ll) In the event that, upon an occurrence of an Event of Default, Agent shall sell all or any of the Pledged Securities to another party or parties (herein called the “Transferee”) or shall purchase or retain all or any of the Pledged Securities, each Debtor shall, to the extent applicable: (i) deliver to Agent or the Transferee, as the case may be, the certificate of incorporation, bylaws, minute books, stock certificate books, corporate seals, deeds, leases, indentures, agreements, evidences of indebtedness, books of account, financial records and all other Organizational Documents and records of the Debtors and their direct and indirect subsidiaries; (ii) use its best efforts to obtain resignations of the persons then serving as officers and directors of the Debtors and their direct and indirect subsidiaries, if so requested; and (iii) use its best efforts to obtain any approvals that are required by any governmental or regulatory body in order to permit the sale of the Pledged Securities to the Transferee or the purchase or retention of the Pledged Securities by Agent and allow the Transferee or Agent to continue the business of the Debtors and their direct and indirect subsidiaries.

(mm) Without limiting the generality of the other obligations of the Debtors hereunder, each Debtor shall promptly (i) cause to be registered at the United States Copyright Office all of its material copyrights, (ii) cause the security interest contemplated hereby with respect to all Intellectual Property registered at the United States Copyright Office or United States Patent and Trademark Office to be duly recorded at the applicable office, and (iii) give the Agent notice whenever it acquires (whether absolutely or by license) or creates any additional material Intellectual Property.

(nn) Each Debtor will from time to time, at the joint and several expense of the Debtors, promptly execute and deliver all such further instruments and documents, and take all such further action as may be necessary or desirable, or as the Agent may reasonably request, in order to create, perfect, preserve, protect, confirm and validate any security interest granted or purported to be granted hereby or to enable the Secured Parties to obtain the full benefit of this Agreement or to exercise and enforce their rights and remedies hereunder and with respect to any Collateral or to otherwise carry out the purposes of this Agreement.

(oo) Schedule F attached hereto lists all of the patents, patent applications, trademarks, trademark applications, registered copyrights, and domain names owned by any of the Debtors as of the date hereof. Schedule F lists all material licenses in favor of any Debtor for the use of any patents, trademarks, copyrights and domain names as of the date hereof. All material patents and trademarks of the Debtors have been duly recorded at the United States Patent and Trademark Office and all material copyrights of the Debtors have been duly recorded at the United States Copyright Office.

(pp) Except as set forth on Schedule G attached hereto, none of the account debtors or other persons or entities obligated on any of the Collateral is a governmental authority covered by the Federal Assignment of Claims Act or any similar federal, state or local statute or rule in respect of such Collateral.

(qq) Until the Obligations shall have been paid and performed in full, the Company covenants that it shall promptly direct any direct or indirect subsidiary of the Company formed or acquired after the date hereof to enter into a Subsidiary Guarantee in favor of the Secured Party, in the form attached as an exhibit to the Purchase Agreement.

(rr) Each Debtor is the legal and beneficial owner of, and has good and marketable title to, the Pledged Notes pledged by it hereunder, free and clear of any and all liens, security interests or other encumbrances or options in favor of, or claims of any other person, except for Permitted Liens (as defined in the Note).

(ss) To the extent applicable, each Debtor shall take, or shall refrain from taking, as the case may be, each action that is necessary to be taken or not taken, as the case may be, so that no Event of Default (as defined in the Note) is caused by the failure to take such action or to refrain from taking such action by such Debtor or any of its subsidiaries.

5. Effect of Pledge on Certain Rights. If any of the Collateral subject to this Agreement consists of nonvoting equity or ownership interests (regardless of class, designation, preference or rights) that may be converted into voting equity or ownership interests upon the occurrence of certain events (including, without limitation, upon the transfer of all or any of the other stock or assets of the issuer), it is agreed that the pledge of such equity or ownership interests pursuant to this Agreement or the enforcement of any of Agent's rights hereunder shall not be deemed to be the type of event which would trigger such conversion rights notwithstanding any provisions in the Organizational Documents or agreements to which any Debtor is subject or to which any Debtor is party.

6. Defaults. The following events shall be "Events of Default":

(a) The occurrence of an Event of Default (as defined in the Note) under the Note;

(b) Any representation or warranty of any Debtor in this Agreement shall prove to have been incorrect in any material respect when made or deemed made;

(c) The failure by any Debtor to observe or perform any of its obligations or agreements hereunder which failure is not cured, if possible to cure, within the earlier of (i) five (5) days after such Debtor has become or should have become aware of such failure or (ii) five (5) days after delivery to such Debtor of notice of such failure by or on behalf of a Secured Party, unless such default is capable of cure but cannot be cured within such time frame and such Debtor is using best efforts to cure same in a timely fashion; or

(d) If any provision of this Agreement or the Subsidiary Guarantee shall at any time for any reason be declared to be null and void, or the validity or enforceability thereof shall be contested by any Debtor or asserted in writing by any Debtor not to be a legal, valid and binding obligation of any party thereto, or a proceeding shall be commenced by any Debtor, or by any governmental authority having jurisdiction over any Debtor, seeking to establish the invalidity or unenforceability thereof, or any Debtor shall deny that any Debtor has any liability or obligation purported to be created under this Agreement or the Subsidiary Guarantee.

7. Duty to Hold in Trust.

(a) Upon the occurrence of any Event of Default and at any time thereafter, each Debtor shall, upon receipt of any revenue, income, dividend, interest or other sums subject to the Security Interests, whether payable pursuant to the Note or otherwise, or of any check, draft, note, trade acceptance or other instrument evidencing an obligation to pay any such sum, hold the same in trust for the Secured Parties and shall forthwith endorse and transfer any such sums or instruments, or both, to the Secured Parties, pro-rata in proportion to their respective then-currently outstanding principal amount of Note for application to the satisfaction of the Obligations (and if the Note is not outstanding, pro-rata in proportion to the initial purchases of the remaining Note).

(b) If any Debtor shall become entitled to receive or shall receive any securities or other property (including, without limitation, shares of Pledged Securities or instruments representing Pledged Securities or Pledged Notes acquired after the date hereof, or any options, warrants, rights or other similar property or certificates representing a dividend, or any distribution in connection with any recapitalization, reclassification or increase or reduction of capital, or issued in connection with any reorganization of such Debtor or any of its direct or indirect subsidiaries) in respect of the Pledged Securities or the Pledged Notes (whether as an addition to, in substitution of, or in exchange for, such Pledged Securities or Pledged Notes or otherwise), such Debtor agrees to (i) accept the same as the agent of the Secured Parties; (ii) hold the same in trust on behalf of and for the benefit of the Secured Parties; and (iii) to deliver any and all certificates or instruments evidencing the same to Agent on or before the close of business on the fifth business day following the receipt thereof by such Debtor, in the exact form received together with the Necessary Endorsements, to be held by Agent subject to the terms of this Agreement as Collateral.

8. Rights and Remedies Upon Default. (a) Upon the occurrence of any Event of Default and at any time thereafter, the Secured Parties, acting through the Agent, shall have the right to exercise all of the remedies conferred hereunder and under the Note, and the Secured Parties shall have all the rights and remedies of a secured party under the UCC. Without limitation, the Agent, for the benefit of the Secured Parties, shall have the following rights and powers:

(i) The Agent shall have the right to take possession of the Collateral and, for that purpose, enter, with the aid and assistance of any person, any premises where the Collateral, or any part thereof, is or may be placed and remove the same, and each Debtor shall assemble the Collateral and make it available to the Agent at places which the Agent shall reasonably select, whether at such Debtor's premises or elsewhere, and make available to the Agent, without rent, all of such Debtor's respective premises and facilities for the purpose of the Agent taking possession of, removing or putting the Collateral in saleable or disposable form.

(ii) Upon notice to the Debtors by Agent, all rights of each Debtor to exercise the voting and other consensual rights which it would otherwise be entitled to exercise and all rights of each Debtor to receive the dividends and interest which it would otherwise be authorized to receive and retain, shall cease. Upon such notice, Agent shall have the right to receive, for the benefit of the Secured Parties, any interest, cash dividends or other payments on the Collateral and, at the option of Agent, to exercise in such Agent's discretion all voting rights pertaining thereto. Without limiting the generality of the foregoing, Agent shall have the right (but not the obligation) to exercise all rights with respect to the Collateral as if it were the sole and absolute owner thereof, including, without limitation, to vote and/or to exchange, at its sole discretion, any or all of the Collateral in connection with a merger, reorganization, consolidation, recapitalization or other readjustment concerning or involving the Collateral or any Debtor or any of its direct or indirect subsidiaries.

(iii) The Agent shall have the right to operate the business of each Debtor using the Collateral and shall have the right to assign, sell, lease or otherwise dispose of and deliver all or any part of the Collateral, at public or private sale or otherwise, either with or without special conditions or stipulations, for cash or on credit or for future delivery, in such parcel or parcels and at such time or times and at such place or places, and upon such terms and conditions as the Agent may deem commercially reasonable, all without (except as shall be required by applicable statute and cannot be waived) advertisement or demand upon or notice to any Debtor or right of redemption of a Debtor, which are hereby expressly waived. Upon each such sale, lease, assignment or other transfer of Collateral, the Agent, for the benefit of the Secured Parties, may, unless prohibited by applicable law which cannot be waived, purchase all or any part of the Collateral being sold, free from and discharged of all trusts, claims, right of redemption and equities of any Debtor, which are hereby waived and released.

(iv) The Agent shall have the right (but not the obligation) to notify any account debtors and any obligors under instruments or accounts (including under any Pledged Notes) to make payments directly to the Agent, on behalf of the Secured Parties, and to enforce the Debtors' rights against such account debtors and obligors.

(v) The Agent, for the benefit of the Secured Parties, may (but is not obligated to) direct any financial intermediary or any other person or entity holding any investment property to transfer the same to the Agent, on behalf of the Secured Parties, or its designee.

(vi) The Agent may (but is not obligated to) transfer any or all Intellectual Property registered in the name of any Debtor at the United States Patent and Trademark Office and/or Copyright Office into the name of the Secured Parties or any designee or any purchaser of any Collateral.

(b) The Agent shall comply with any applicable law in connection with a disposition of Collateral and such compliance will not be considered adversely to affect the commercial reasonableness of any sale of the Collateral. The Agent may sell the Collateral without giving any warranties and may specifically disclaim such warranties. If the Agent sells any of the Collateral on credit, the Debtors will only be credited with payments actually made by the purchaser. In addition, each Debtor waives any and all rights that it may have to a judicial hearing in advance of the enforcement of any of the Agent's rights and remedies hereunder, including, without limitation, its right following an Event of Default to take immediate possession of the Collateral and to exercise its rights and remedies with respect thereto.

(c) For the purpose of enabling the Agent to further exercise rights and remedies under this Section 8 or elsewhere provided by agreement or applicable law, each Debtor hereby grants to the Agent, for the benefit of the Agent and the Secured Parties, an irrevocable, nonexclusive license (exercisable without payment of royalty or other compensation to such Debtor) to use, license or sublicense following an Event of Default, any Intellectual Property now owned or hereafter acquired by such Debtor, and wherever the same may be located, and including in such license access to all media in which any of the licensed items may be recorded or stored and to all computer software and programs used for the compilation or printout thereof.

9. Applications of Proceeds. The proceeds of any such sale, lease or other disposition of the Collateral hereunder or from payments made on account of any insurance policy insuring any portion of the Collateral shall be applied first, to the expenses of retaking, holding, storing, processing and preparing for sale, selling, and the like (including, without limitation, any taxes, fees and other costs incurred in connection therewith) of the Collateral, to the reasonable attorneys' fees and expenses incurred by the Agent in enforcing the Secured Parties' rights hereunder and in connection with collecting, storing and disposing of the Collateral, and then to satisfaction of the Obligations pro rata among the Secured Parties (based on then- outstanding principal amounts of Note at the time of any such determination), and to the payment of any other amounts required by applicable law, after which the Secured Parties shall pay to the applicable Debtor any surplus proceeds. If, upon the sale, license or other disposition of the Collateral, the proceeds thereof are insufficient to pay all amounts to which the Secured Parties are legally entitled, the Debtors will be liable for the deficiency, together with interest thereon, at the rate of 18% per annum or the lesser amount permitted by applicable law (the "Default Rate"), and the reasonable fees of any attorneys employed by the Secured Parties to collect such deficiency. To the extent permitted by applicable law, each Debtor waives all claims, damages and demands against the Secured Parties arising out of the repossession, removal, retention or sale of the Collateral, unless due solely to the gross negligence or willful misconduct of the Secured Parties as determined by a final judgment (not subject to further appeal) of a court of competent jurisdiction.

10. Securities Law Provision. Each Debtor recognizes that Agent may be limited in its ability to effect a sale to the public of all or part of the Pledged Securities by reason of certain prohibitions in the Securities Act of 1933, as amended, or other federal or state securities laws (collectively, the "Securities Laws"), and may be compelled to resort to one or more sales to a restricted group of purchasers who may be required to agree to acquire the Pledged Securities for their own account, for investment and not with a view to the distribution or resale thereof. Each Debtor agrees that sales so made may be at prices and on terms less favorable than if the Pledged Securities were sold to the public, and that Agent has no obligation to delay the sale of any Pledged Securities for the period of time necessary to register the Pledged Securities for sale to the public under the Securities Laws. Each Debtor shall cooperate with Agent in its attempt to satisfy any requirements under the Securities Laws (including, without limitation, registration thereunder if requested by Agent) applicable to the sale of the Pledged Securities by Agent.

11. Costs and Expenses. Each Debtor agrees to pay all reasonable out-of- pocket fees, costs and expenses incurred in connection with any filing required hereunder, including without limitation, any financing statements pursuant to the UCC, continuation statements, partial releases and/or termination statements related thereto or any expenses of any searches reasonably required by the Agent. The Debtors shall also pay all other claims and charges which in the reasonable opinion of the Agent is reasonably likely to prejudice, imperil or otherwise affect the Collateral or the Security Interests therein. The Debtors will also, upon demand, pay to the Agent the amount of any and all reasonable expenses, including the reasonable fees and expenses of its counsel and of any experts and agents, which the Agent, for the benefit of the Secured Parties, may incur in connection with the creation, perfection, protection, satisfaction, foreclosure, collection or enforcement of the Security Interest and the preparation, administration, continuance, amendment or enforcement of this Agreement and pay to the Agent the amount of any and all reasonable expenses, including the reasonable fees and expenses of its counsel and of any experts and agents, which the Agent, for the benefit of the Secured Parties, and the Secured Parties may incur in connection with (i) the enforcement of this Agreement, (ii) the custody or preservation of, or the sale of, collection from, or other realization upon, any of the Collateral, or (iii) the exercise or enforcement of any of the rights of the Secured Parties under the Note. Until so paid, any fees payable hereunder shall be added to the principal amount of the Note and shall bear interest at the Default Rate.

12. Responsibility for Collateral. The Debtors assume all liabilities and responsibility in connection with all Collateral, and the Obligations shall in no way be affected or diminished by reason of the loss, destruction, damage or theft of any of the Collateral or its unavailability for any reason. Without limiting the generality of the foregoing, (a) neither the Agent nor any Secured Party (i) has any duty (either before or after an Event of Default) to collect any amounts in respect of the Collateral or to preserve any rights relating to the Collateral, or (ii) has any obligation to clean-up or otherwise prepare the Collateral for sale, and (b) each Debtor shall remain obligated and liable under each contract or agreement included in the Collateral to be observed or performed by such Debtor thereunder. Neither the Agent nor any Secured Party shall have any obligation or liability under any such contract or agreement by reason of or arising out of this Agreement or the receipt by the Agent or any Secured Party of any payment relating to any of the Collateral, nor shall the Agent or any Secured Party be obligated in any manner to perform any of the obligations of any Debtor under or pursuant to any such contract or agreement, to make inquiry as to the nature or sufficiency of any payment received by the Agent or any Secured Party in respect of the Collateral or as to the sufficiency of any performance by any party under any such contract or agreement, to present or file any claim, to take any action to enforce any performance or to collect the payment of any amounts which may have been assigned to the Agent or to which the Agent or any Secured Party may be entitled at any time or times.

13. Security Interests Absolute. All rights of the Secured Parties and all obligations of the Debtors hereunder, shall be absolute and unconditional, irrespective of: (a) any lack of validity or enforceability of this Agreement, the Subsidiary Guarantee, the Note or any agreement entered into in connection with the foregoing, or any portion hereof or thereof; (b) any change in the time, manner or place of payment or performance of, or in any other term of, all or any of the Obligations, or any other amendment or waiver of or any consent to any departure from the Note or any other agreement entered into in connection with the foregoing; (c) any exchange, release or nonperfection of any of the Collateral, or any release or amendment or waiver of or consent to departure from any other collateral for, or any guarantee, or any other security, for all or any of the Obligations; (d) any action by the Secured Parties to obtain, adjust, settle and cancel in its sole discretion any insurance claims or matters made or arising in connection with the Collateral; or (e) any other circumstance which might otherwise constitute any legal or equitable defense available to a Debtor, or a discharge of all or any part of the Security Interests granted hereby. Until the Obligations shall have been paid and performed in full, the rights of the Secured Parties shall continue even if the Obligations are barred for any reason, including, without limitation, the running of the statute of limitations or bankruptcy. Each Debtor expressly waives presentment, protest, notice of protest, demand, notice of nonpayment and demand for performance. In the event that at any time any transfer of any Collateral or any payment received by the Secured Parties hereunder shall be deemed by final order of a court of competent jurisdiction to have been a voidable preference or fraudulent conveyance under the bankruptcy or insolvency laws of the United States, or shall be deemed to be otherwise due to any party other than the Secured Parties, then, in any such event, each Debtor's obligations hereunder shall survive cancellation of this Agreement, and shall not be discharged or satisfied by any prior payment thereof and/or cancellation of this Agreement, but shall remain a valid and binding obligation enforceable in accordance with the terms and provisions hereof. Each Debtor waives all right to require the Secured Parties to proceed against any other person or entity or to apply any Collateral which the Secured Parties may hold at any time, or to marshal assets, or to pursue any other remedy. Each Debtor waives any defense arising by reason of the application of the statute of limitations to any obligation secured hereby.

14. Term of Agreement. This Agreement and the Security Interests shall terminate on the date on which all payments under the Note have been indefeasibly paid in full and all other Obligations have been paid or discharged; provided, however, that all indemnities of the Debtors contained in this Agreement (including, without limitation, Annex B hereto) shall survive and remain operative and in full force and effect regardless of the termination of this Agreement.

15. Power of Attorney; Further Assurances . (a) Each Debtor authorizes the Agent, and does hereby make, constitute and appoint the Agent and its officers, agents, successors or assigns with full power of substitution, as such Debtor's true and lawful attorney-in-fact, with power, in the name of the Agent or such Debtor, to, after the occurrence and during the continuance of an Event of Default, (i) endorse any note, checks, drafts, money orders or other instruments of payment (including payments payable under or in respect of any policy of insurance) in respect of the Collateral that may come into possession of the Agent; (ii) to sign and endorse any financing statement pursuant to the UCC or any invoice, freight or express bill, bill of lading, storage or warehouse receipts, drafts against debtors, assignments, verifications and notices in connection with accounts, and other documents relating to the Collateral; (iii) to pay or discharge taxes, liens, security interests or other encumbrances at any time levied or placed on or threatened against the Collateral; (iv) to demand, collect, receipt for, compromise, settle and sue for monies due in respect of the Collateral; (v) to transfer any Intellectual Property or provide licenses respecting any Intellectual Property; and (vi) generally, at the option of the Agent, and at the expense of the Debtors, at any time, or from time to time, to execute and deliver any and all documents and instruments and to do all acts and things which the Agent deems necessary to protect, preserve and realize upon the Collateral and the Security Interests granted therein in order to effect the intent of this Agreement and the Note all as fully and effectually as the Debtors might or could do; and each Debtor hereby ratifies all that said attorney shall lawfully do or cause to be done by virtue hereof. This power of attorney is coupled with an interest and shall be irrevocable for the term of this Agreement and thereafter as long as any of the Obligations shall be outstanding. The designation set forth herein shall be deemed to amend and supersede any inconsistent provision in the Organizational Documents or other documents or agreements to which any Debtor is subject or to which any Debtor is a party. Without limiting the generality of the foregoing, after the occurrence and during the continuance of an Event of Default, each Secured Party is specifically authorized to execute and file any applications for or instruments of transfer and assignment of any patents, trademarks, copyrights or other Intellectual Property with the United States Patent and Trademark Office and the United States Copyright Office.

(b) On a continuing basis, each Debtor will make, execute, acknowledge, deliver, file and record, as the case may be, with the proper filing and recording agencies in any jurisdiction, including, without limitation, the jurisdictions indicated on Schedule J attached hereto, all such instruments, and take all such action as may reasonably be deemed necessary or advisable, or as reasonably requested by the Agent, to perfect the Security Interests granted hereunder and otherwise to carry out the intent and purposes of this Agreement, or for assuring and confirming to the Agent the grant or perfection of a perfected security interest in all the Collateral under the UCC.

(c) Each Debtor hereby irrevocably appoints the Agent as such Debtor's attorney-in-fact, with full authority in the place and instead of such Debtor and in the name of such Debtor, from time to time in the Agent's discretion, to take any action and to execute any instrument which the Agent may deem necessary or advisable to accomplish the purposes of this Agreement, including the filing, in its sole discretion, of one or more financing or continuation statements and amendments thereto, relative to any of the Collateral without the signature of such Debtor where permitted by law, which financing statements may (but need not) describe the Collateral as "all assets" or "all personal property" or words of like import, and ratifies all such actions taken by the Agent. This power of attorney is coupled with an interest and shall be irrevocable for the term of this Agreement and thereafter as long as any of the Obligations shall be outstanding.

16. Notices. All notices, requests, demands and other communications hereunder shall be subject to the notice provision of the Purchase Agreement (as such term is defined in the Note).

17. Other Security. To the extent that the Obligations are now or hereafter secured by property other than the Collateral or by the guarantee, endorsement or property of any other person, firm, corporation or other entity, then the Agent shall have the right, in its sole discretion, to pursue, relinquish, subordinate, modify or take any other action with respect thereto, without in any way modifying or affecting any of the Secured Parties' rights and remedies hereunder.

18. Appointment of Agent. The Secured Parties hereby appoint OJSC Pharmsynthez to act as their agent (Pharmsynthez or “Agent”) for purposes of exercising any and all rights and remedies of the Secured Parties hereunder. Such appointment shall continue until revoked in writing by a Majority in Interest, at which time a Majority in Interest shall appoint a new Agent, provided that Pharmsynthez may not be removed as Agent unless Pharmsynthez shall then hold less than \$100,000 in principal amount of the Note; provided, further, that such removal may occur only if each of the other Secured Parties shall then hold not less than an aggregate of \$25,000 in principal amount of the Note. The Agent shall have the rights, responsibilities and immunities set forth in Annex B hereto.

19. Miscellaneous. (a) No course of dealing between the Debtors and the Secured Parties, nor any failure to exercise, nor any delay in exercising, on the part of the Secured Parties, any right, power or privilege hereunder or under the Note shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power or privilege hereunder or thereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege.

(b) All of the rights and remedies of the Secured Parties with respect to the Collateral, whether established hereby or by the Note or by any other agreements, instruments or documents or by law shall be cumulative and may be exercised singly or concurrently.

(c) This Agreement and the other Transaction Documents represent the entire agreement of the Guarantors and the Purchaser with respect to the subject matter hereof and thereof, and there are no promises, undertakings, representations or warranties by the Purchaser relative to subject matter hereof and thereof not expressly set forth or referred to herein or in the other Transaction Documents. No provision of this Agreement may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment, by the Debtors and the Secured Parties holding 67% or more of the principal amount of Note then outstanding, or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought.

(d) If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

(e) No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right.

(f) This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company and the Guarantors may not assign this Agreement or any rights or obligations hereunder without the prior written consent of each Secured Party (other than by merger). Any Secured Party may assign any or all of its rights under this Agreement to any Person (as defined in the Purchase Agreement) to whom such Secured Party assigns or transfers any Obligations, provided such transferee agrees in writing to be bound, with respect to the transferred Obligations, by the provisions of this Agreement that apply to the “Secured Parties.”

(g) Language. This Agreement is made in both the English and the Russian languages. In case of any inconsistencies between the English and the Russian versions the English version of this Agreement shall prevail.

(h) Each party shall take such further action and execute and deliver such further documents as may be necessary or appropriate in order to carry out the provisions and purposes of this Agreement.

(i) Except to the extent mandatorily governed by the jurisdiction or situs where the Collateral is located, all questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Except to the extent mandatorily governed by the jurisdiction or situs where the Collateral is located, each Debtor agrees that all proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and the Note (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York, Borough of Manhattan. Except to the extent mandatorily governed by the jurisdiction or situs where the Collateral is located, each Debtor hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such proceeding is improper. Each party hereto hereby irrevocably waives personal service of process and consents to process being served in any such proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

(j) This Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and, all of which taken together shall constitute one and the same agreement. In the event that any signature is delivered by facsimile or electronic (i.e., “pdf” or “tiff”) transmission, such signature shall create a valid binding obligation of the party executing (or on whose behalf such signature is executed) the same and shall be effective as delivery of a manually signed original.

(k) All Debtors shall jointly and severally be liable for the obligations of each Debtor to the Secured Parties hereunder.

(l) Each Debtor shall indemnify, reimburse and hold harmless the Agent and the Secured Parties and their respective partners, members, shareholders, officers, directors, employees and agents (and any other persons with other titles that have similar functions) (collectively, “Indemnitees”) from and against any and all losses, claims, liabilities, damages, penalties, suits, costs and expenses, of any kind or nature, (including fees relating to the cost of investigating and defending any of the foregoing) imposed on, incurred by or asserted against such Indemnitee in any way related to or arising from or alleged to arise from this Agreement or the Collateral, except any such losses, claims, liabilities, damages, penalties, suits, costs and expenses which result from the gross negligence or willful misconduct of the Indemnitee as determined by a final, nonappealable decision of a court of competent jurisdiction. This indemnification provision is in addition to, and not in limitation of, any other indemnification provision in the Note, the Purchase Agreement (as such term is defined in the Note) or any other agreement, instrument or other document executed or delivered in connection herewith or therewith.

(m) Nothing in this Agreement shall be construed to subject Agent or any Secured Party to liability as a partner in any Debtor or any of its direct or indirect subsidiaries that is a partnership or as a member in any Debtor or any of its direct or indirect subsidiaries that is a limited liability company, nor shall Agent or any Secured Party be deemed to have assumed any obligations under any partnership agreement or limited liability company agreement, as applicable, of any such Debtor or any of its direct or indirect subsidiaries or otherwise, unless and until any such Secured Party exercises its right to be substituted for such Debtor as a partner or member, as applicable, pursuant hereto.

(n) To the extent that the grant of the security interest in the Collateral and the enforcement of the terms hereof require the consent, approval or action of any partner or member, as applicable, of any Debtor or any direct or indirect subsidiary of any Debtor or compliance with any provisions of any of the Organizational Documents, the Debtors hereby grant such consent and approval and waive any such noncompliance with the terms of said documents.

(o) EACH DEBTOR AND, BY ACCEPTANCE OF THE BENEFITS HEREOF, THE PURCHASER, HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVE, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY AND FOR ANY COUNTERCLAIM THEREIN.

[SIGNATURE PAGES FOLLOW]

IN WITNESS WHEREOF, the parties hereto have caused this Security Agreement to be duly executed on the day and year first above written/ В УЮ,ОCTOБEPЕПННЕ БЫИВЕПННО)!(EHHOH O HH)f{eoo.n.n Hcasw HecH cTOpott H tacToSlw,ero .n.oKyMeHTa HaJIJHq)KWHM cыpOCTH BКJИЮЧАЮT ДИСК H H Mopocop oбaнHЧH HSI no COCTOCH HHIO Ha ДИTy, мepHbкe YKaJa cы10 BbIwa.

XENETIC BIOSCIENCES, INC.

By/ B ИИ-Юк: _____
Name/ ИИСИ: _____
Title/ MoeHq)HOCTh: _____

XENETIC BIOSCIENCES (UK) LIMITED

By/ B JИУ.e: _____
Name/ ИИСИ: _____
Title/ MoeHq)HOCTh: _____

LIPOXEN TECHNOLOGIES LIMITED

By/ B aH y.e: _____
Name/ ИИСИ: _____
Title/ MoeHq)HOCTh: _____

XENETIC BIOSCIENCE, INCORPORATED

By/ B JИУ.e: _____
Name/ ИИСИ: _____
Title/ MoeHq)HOCTh: _____

SYMBIOTEC GMBH

By/ B aH y.e: _____
Name/ ИИСИ: _____
Title/ MoeHq)HOCTh: _____

[SIGNATURE PAGE OF DEBTORS]
[СТРАНИЦА ПОДПИСЕЙ ЗАЕМЩИКОВ]

Name of Investing Entity/ Подпись Инвестора: OJSC PharmSynthes

Signature of Authorized Signatory of Investing entity/
Подпись уполномоченного лица Инвестора с правом подписи: _____

Name of Authorized Signatory/
Имя уполномоченного лица с правом подписи: Peter Kruglyakov

Title of Authorized Signatory/
MOMEHOCThb TаKHO MOYTeHO poJE Ca cыpаBOH coJИ,аHCH: CEa



SCHEDULE A

Books and Records

Debtor	Location of Books/Records
Xenetic Biosciences, Inc.	99 Hayden Avenue, Suite 230 Lexington, MA 02421
Xenetic Biosciences (UK) Limited	99 Hayden Avenue, Suite 230 Lexington, MA 02421
Lipoxen Technologies Limited	99 Hayden Avenue, Suite 230 Lexington, MA 02421
Xenetic Bioscience, Incorporated	99 Hayden Avenue, Suite 230 Lexington, MA 02421
Symbiotec GMBH	99 Hayden Avenue, Suite 230 Lexington, MA 02421

Location of Collateral

Debtor	Location of Collateral	Real Property Owner of Location (If Other than Debtor)	Third Party Possessory Interest (If Any)
Xenetic Biosciences, Inc.	99 Hayden Avenue, Suite 230 Lexington, MA 02421	None	None
[Xenetic Biosciences (UK) Limited]	99 Hayden Avenue, Suite 230 Lexington, MA 02421	None	None
[Lipoxen Technologies Limited]	99 Hayden Avenue, Suite 230 Lexington, MA 02421	None	None
[Xenetic Bioscience, Incorporated]	99 Hayden Avenue, Suite 230 Lexington, MA 02421	None	None
[Symbiotec GMBH]	99 Hayden Avenue, Suite 230 Lexington, MA 02421	None	None

SCHEDULE B

None

SCHEDULE C

There are no known existing liens on the Collateral of the Debtor or on any of the guarantors.

SCHEDULE D

Legal Names and Organizational Identification Numbers

Company Name	Date of Incorporation	State/Country of Incorporation	Tax ID
Xenetic Bioscience (UK) Limited	06/12/1996	United Kingdom	03213174
Xenetic Bioscience, Incorporated	05/07/2012	Delaware, USA	45-5241537
Lipoxen Technologies Limited	07/10/1997	United Kingdom	03401495
SymbioTec GmbH	12/29/1999	Germany	040 118 00268

SCHEDULE E

Names; Mergers and Acquisitions

Other than the trade names noted in Schedule D and the trade names and mergers and acquisitions noted within the Annual Report on Form 10-K filed on April 15, 2015, refer to the Scheme of Arrangement (including the Equivalent Document) attached to the Current Report on Form 8-K filed on November 25, 2013 for any additional trade names utilized within the last five years.

SCHEDULE F

Intellectual Property

See attached pages for the master list of the Company's intellectual property.

SCHEDULE G

Account Debtors

The Debtor (the Company) is the sole owner of all Collateral (except for non-exclusive licenses granted by the Debtor in the ordinary course of business). Please refer to the Annual Report on Form 10-K filed on April 15, 2015 for a description of the licenses granted by the Debtor. None of the Collateral consist of receivables from a governmental authority covered by the Federal Assignment of Claims Act or similar state or local law.

SCHEDULE H

Pledged Securities

Registered Owner	Issuer	Percentage of Outstanding Shares of Issuer to be Pledged
Xenetic Biosciences, Inc.	Xenetic Biosciences (UK) Limited	All issued and outstanding
Xenetic Biosciences (UK) Limited	Lipoxen Technologies Limited	All issued and outstanding
Xenetic Biosciences (UK) Limited.	Xenetic Bioscience, Incorporated	All issued and outstanding
Xenetic Biosciences (UK) Limited.	Symbiotec GMBH	All issued and outstanding

SCHEDULE I

Notes

A \$395,000 Note owed to an affiliated Shareholder

SCHEDULE J

UCC Filing Locations

Debtor	Jurisdiction
Xenetic Biosciences, Inc.	Nevada
Xenetic Bioscience, Incorporated	Delaware
Xenetic Biosciences (UK) Limited	UK
Lipoxen Technologies Limited	UK
Symbiotec GMBH	Germany

**ANNEX A
to SECURITY
AGREEMENT**

FORM OF ADDITIONAL DEBTOR JOINDER

Security Agreement dated as of , 2015 made by Xenetic Biosciences, Inc. and its subsidiaries party thereto from time to time, as Debtors to and in favor of the Secured Parties identified therein (the "Security Agreement")

Reference is made to the Security Agreement as defined above; capitalized terms used herein and not otherwise defined herein shall have the meanings given to such terms in, or by reference in, the Security Agreement.

The undersigned hereby agrees that upon delivery of this Additional Debtor Joinder to the Secured Parties referred to above, the undersigned shall (a) be an Additional Debtor under the Security Agreement, (b) have all the rights and obligations of the Debtors under the Security Agreement as fully and to the same extent as if the undersigned was an original signatory thereto and (c) be deemed to have made the representations and warranties set forth therein as of the date of execution and delivery of this Additional Debtor Joinder. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, THE UNDERSIGNED SPECIFICALLY GRANTS TO THE SECURED PARTIES A SECURITY INTEREST IN THE COLLATERAL AS MORE FULLY SET FORTH IN THE SECURITY AGREEMENT AND ACKNOWLEDGES AND AGREES TO THE WAIVER OF JURY TRIAL PROVISIONS SET FORTH THEREIN.

Attached hereto are supplemental and/or replacement Schedules to the Security Agreement, as applicable.

An executed copy of this Joinder shall be delivered to the Secured Parties, and the Secured Parties may rely on the matters set forth herein on or after the date hereof. This Joinder shall not be modified, amended or terminated without the prior written consent of the Secured Parties.

IN WITNESS WHEREOF, the undersigned has caused this Joinder to be executed in the name and on behalf of the undersigned.

[Name of Additional Debtor]

By:
Name:
Title:

Address:

Dated:

**ANNEX B
to SECURITY
AGREEMENT**

THE AGENT

1. **Appointment.** The Secured Parties (all capitalized terms used herein and not otherwise defined shall have the respective meanings provided in the Security Agreement to which this Annex B is attached (the "Agreement")), by their acceptance of the benefits of the Agreement, hereby designate OJSC Pharmsynthez (Pharmsynthez or "Agent") as the Agent to act as specified herein and in the Agreement. Each Secured Party shall be deemed irrevocably to authorize the Agent to take such action on its behalf under the provisions of the Agreement and any other Transaction Document (as such term is defined in the Purchase Agreement) and to exercise such powers and to perform such duties hereunder and thereunder as are specifically delegated to or required of the Agent by the terms hereof and thereof and such other powers as are reasonably incidental thereto. The Agent may perform any of its duties hereunder by or through its agents or employees.

2. **Nature of Duties.** The Agent shall have no duties or responsibilities except those expressly set forth in the Agreement. Neither the Agent nor any of its partners, members, shareholders, officers, directors, employees or agents shall be liable for any action taken or omitted by it as such under the Agreement or hereunder or in connection herewith or therewith, be responsible for the consequence of any oversight or error of judgment or answerable for any loss, unless caused solely by its or their gross negligence or willful misconduct as determined by a final judgment (not subject to further appeal) of a court of competent jurisdiction. The duties of the Agent shall be mechanical and administrative in nature; the Agent shall not have by reason of the Agreement or any other Transaction Document a fiduciary relationship in respect of any Debtor or any Secured Party; and nothing in the Agreement or any other Transaction Document, expressed or implied, is intended to or shall be so construed as to impose upon the Agent any obligations in respect of the Agreement or any other Transaction Document except as expressly set forth herein and therein.

3. **Lack of Reliance on the Agent.** Independently and without reliance upon the Agent, each Secured Party, to the extent it deems appropriate, has made and shall continue to make (i) its own independent investigation of the financial condition and affairs of the Company and its subsidiaries in connection with such Secured Party's investment in the Debtors, the creation and continuance of the Obligations, the transactions contemplated by the Transaction Documents, and the taking or not taking of any action in connection therewith, and (ii) its own appraisal of the creditworthiness of the Company and its subsidiaries, and of the value of the Collateral from time to time, and the Agent shall have no duty or responsibility, either initially or on a continuing basis, to provide any Secured Party with any credit, market or other information with respect thereto, whether coming into its possession before any Obligations are incurred or at any time or times thereafter. The Agent shall not be responsible to the Debtors or any Secured Party for any recitals, statements, information, representations or warranties herein or in any document, certificate or other writing delivered in connection herewith, or for the execution, effectiveness, genuineness, validity, enforceability, perfection, collectibility, priority or sufficiency of the Agreement or any other Transaction Document, or for the financial condition of the Debtors or the value of any of the Collateral, or be required to make any inquiry concerning either the performance or observance of any of the terms, provisions or conditions of the Agreement or any other Transaction Document, or the financial condition of the Debtors, or the value of any of the Collateral, or the existence or possible existence of any default or Event of Default under the Agreement, the Note or any of the other Transaction Documents.

4. Certain Rights of the Agent. The Agent shall have the right to take any action with respect to the Collateral, on behalf of all of the Secured Parties. To the extent practical, the Agent shall request instructions from the Secured Parties with respect to any material act or action (including failure to act) in connection with the Agreement or any other Transaction Document, and shall be entitled to act or refrain from acting in accordance with the instructions of a Majority in Interest; if such instructions are not provided despite the Agent's request therefor, the Agent shall be entitled to refrain from such act or taking such action, and if such action is taken, shall be entitled to appropriate indemnification from the Secured Parties in respect of actions to be taken by the Agent; and the Agent shall not incur liability to any person or entity by reason of so refraining. Without limiting the foregoing, (a) no Secured Party shall have any right of action whatsoever against the Agent as a result of the Agent acting or refraining from acting hereunder in accordance with the terms of the Agreement or any other Transaction Document, and the Debtors shall have no right to question or challenge the authority of, or the instructions given to, the Agent pursuant to the foregoing and (b) the Agent shall not be required to take any action which the Agent believes (i) could reasonably be expected to expose it to personal liability or (ii) is contrary to this Agreement, the Transaction Documents or applicable law.

5. Reliance. The Agent shall be entitled to rely, and shall be fully protected in relying, upon any writing, resolution, notice, statement, certificate, telex, teletype or telecopier message, cablegram, radiogram, order or other document or telephone message signed, sent or made by the proper person or entity, and, with respect to all legal matters pertaining to the Agreement and the other Transaction Documents and its duties thereunder, upon advice of counsel selected by it and upon all other matters pertaining to this Agreement and the other Transaction Documents and its duties thereunder, upon advice of other experts selected by it. Anything to the contrary notwithstanding, the Agent shall have no obligation whatsoever to any Secured Party to assure that the Collateral exists or is owned by the Debtors or is cared for, protected or insured or that the liens granted pursuant to the Agreement have been properly or sufficiently or lawfully created, perfected, or enforced or are entitled to any particular priority.

6. Indemnification. To the extent that the Agent is not reimbursed and indemnified by the Debtors, the Secured Parties will jointly and severally reimburse and indemnify the Agent, in proportion to their initially purchased respective principal amounts of Note, from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may be imposed on, incurred by or asserted against the Agent in performing its duties hereunder or under the Agreement or any other Transaction Document, or in any way relating to or arising out of the Agreement or any other Transaction Document except for those determined by a final judgment (not subject to further appeal) of a court of competent jurisdiction to have resulted solely from the Agent's own gross negligence or willful misconduct. Prior to taking any action hereunder as Agent, the Agent may require each Secured Party to deposit with it sufficient sums as it determines in good faith is necessary to protect the Agent for costs and expenses associated with taking such action.

7. Resignation by the Agent.

(a) The Agent may resign from the performance of all its functions and duties under the Agreement and the other Transaction Documents at any time by giving 30 days' prior written notice (as provided in the Agreement) to the Debtors and the Secured Parties. Such resignation shall take effect upon the appointment of a successor Agent pursuant to clauses (b) and (c) below.

(b) Upon any such notice of resignation, the Secured Parties, acting by a Majority in Interest, shall appoint a successor Agent hereunder.

(c) If a successor Agent shall not have been so appointed within said 30-day period, the Agent shall then appoint a successor Agent who shall serve as Agent until such time, if any, as the Secured Parties appoint a successor Agent as provided above. If a successor Agent has not been appointed within such 30-day period, the Agent may petition any court of competent jurisdiction or may interplead the Debtors and the Secured Parties in a proceeding for the appointment of a successor Agent, and all fees, including, but not limited to, extraordinary fees associated with the filing of interpleader and expenses associated therewith, shall be payable by the Debtors on demand.

8. Rights with respect to Collateral. Each Secured Party agrees with all other Secured Parties and the Agent (i) that it shall not, and shall not attempt to, exercise any rights with respect to its security interest in the Collateral, whether pursuant to any other agreement or otherwise (other than pursuant to this Agreement), or take or institute any action against the Agent or any of the other Secured Parties in respect of the Collateral or its rights hereunder (other than any such action arising from the breach of this Agreement) and (ii) that such Secured Party has no other rights with respect to the Collateral other than as set forth in this Agreement and the other Transaction Documents. Upon the acceptance of any appointment as Agent hereunder by a successor Agent, such successor Agent shall thereupon succeed to and become vested with all the rights, powers, privileges and duties of the retiring Agent and the retiring Agent shall be discharged from its duties and obligations under the Agreement. After any retiring Agent's resignation or removal hereunder as Agent, the provisions of the Agreement including this Annex B shall inure to its benefit as to any actions taken or omitted to be taken by it while it was Agent.

SUBSIDIARY GUARANTEE

SUBSIDIARY GUARANTEE, dated as of July 1, 2015 (this “Guarantee”), made by each of the signatories hereto (together with any other entity that may become a party hereto as provided herein, the “Guarantors”), in favor of the Purchaser (together with its permitted assigns, the “Purchaser”) signatory to that certain Securities Purchase Agreement, dated as of the date hereof, between Xenetic Biosciences, Inc., a Nevada corporation (the “Company”) and the Purchaser (the “Purchase Agreement”).

WITNESSETH:

WHEREAS, pursuant to the Purchase Agreement, dated as of the date hereof, by and between the Company and the Purchaser, the Company has agreed to sell and issue to the Purchaser, and the Purchaser has agreed to purchase from the Company the Note, subject to the terms and conditions set forth therein; and

WHEREAS, each Guarantor will derive substantial direct and indirect benefits from the extension of credit to the Company represented by the issuance of the Note; and

NOW, THEREFORE, in consideration of the premises and to induce the Purchaser to enter into the Purchase Agreement and to carry out the transactions contemplated thereby, each Guarantor hereby agrees with the Purchaser as follows:

1. Definitions. Unless otherwise defined herein, terms defined in the Purchase Agreement and used herein shall have the meanings given to them in the Purchase Agreement. The words “hereof,” “herein,” “hereto” and “hereunder” and words of similar import when used in this Guarantee shall refer to this Guarantee as a whole and not to any particular provision of this Guarantee, and Section and Schedule references are to this Guarantee unless otherwise specified. The meanings given to terms defined herein shall be equally applicable to both the singular and plural forms of such terms. The following terms shall have the following meanings:

“Guarantee” means this Subsidiary Guarantee, as the same may be amended, supplemented or otherwise modified from time to time.

“Obligations” means, in addition to all other costs and expenses of collection incurred by the Purchaser in enforcing any of such Obligations and/or this Guarantee, all of the liabilities and obligations (primary, secondary, direct, contingent, sole, joint or several) due or to become due, or that are now or may be hereafter contracted or acquired, or owing to, of the Company or any Guarantor to the Purchaser, including, without limitation, all obligations under this Guarantee, the Note, the Security Agreement and any other instruments, agreements or other documents executed and/or delivered in connection herewith or therewith, in each case, whether now or hereafter existing, voluntary or involuntary, direct or indirect, absolute or contingent, liquidated or unliquidated, whether or not jointly owed with others, and whether or not from time to time decreased or extinguished and later increased, created or incurred, and all or any portion of such obligations or liabilities that are paid, to the extent all or any part of such payment is avoided or recovered directly or indirectly from the Purchaser as a preference, fraudulent transfer or otherwise as such obligations may be amended, supplemented, converted, extended or modified from time to time. Without limiting the generality of the foregoing, the term “Obligations” shall include, without limitation: (i) principal of, and interest on the Note and the loans extended pursuant thereto; (ii) any and all other fees, indemnities, costs, obligations and liabilities of the Company or any Guarantor from time to time under or in connection with this Guarantee, the Note, the Security Agreement and any other instruments, agreements or other documents executed and/or delivered in connection herewith or therewith; and (iii) all amounts (including but not limited to post-petition interest) in respect of the foregoing that would be payable but for the fact that the obligations to pay such amounts are unenforceable or not allowable due to the existence of a bankruptcy, reorganization or similar proceeding involving the Company or any Guarantor.

2. Guarantee.

(a) Guarantee.

(i) The Guarantors hereby, jointly and severally, unconditionally and irrevocably, guarantee to the Purchaser and its respective successors, indorsees, transferees and assigns, the prompt and complete payment and performance when due (whether at the stated maturity, by acceleration or otherwise) of the Obligations.

(ii) Each Guarantor further agrees that all or part of the Obligations may be increased, extended, substituted, amended, renewed or otherwise modified without notice to or consent from such Guarantor and such actions shall not affect the liability of such Guarantor hereunder. Without limiting the generality of the foregoing, each Guarantor's liability shall extend to all amounts that constitute part of the Obligations and would be owed by any other Guarantor or the Company to the Purchaser under or in respect of the Transaction Documents but for the fact that they are unenforceable or not allowable due to the existence of a bankruptcy, reorganization or similar proceeding involving such other Guarantor or the Company.

(iii) Anything herein or in any other Transaction Document to the contrary notwithstanding, the maximum liability of each Guarantor hereunder and under the other Transaction Documents shall in no event exceed the maximum amount which can be guaranteed by such Guarantor under applicable federal, state or foreign laws relating to the insolvency of debtors, or fraudulent conveyance or transfer, or affecting the rights of creditors generally or other similar applicable laws (after giving effect to the right of contribution established in Section 2(b)).

(iv) Each Guarantor agrees that the Obligations may at any time and from time to time exceed the amount of the liability of such Guarantor hereunder without impairing the guarantee contained in this Section 2 or affecting the rights and remedies of the Purchaser hereunder.

(v) The guarantee contained in this Section 2 shall remain in full force and effect until all the Obligations and the obligations of each Guarantor under the guarantee contained in this Section 2 shall have been satisfied by indefeasible payment in full.

(vi) No payment made by the Company, any of the Guarantors, any other guarantor or any other Person or received or collected by the Purchaser from the Company, any of the Guarantors, any other guarantor or any other Person by virtue of any action or proceeding or any set-off or appropriation or application at any time or from time to time in reduction of or in payment of the Obligations shall be deemed to modify, reduce, release or otherwise affect the liability of any Guarantor hereunder which shall, notwithstanding any such payment (other than any payment made by such Guarantor in respect of the Obligations or any payment received or collected from such Guarantor in respect of the Obligations), remain liable for the Obligations up to the maximum liability of such Guarantor hereunder until the Obligations are indefeasibly paid in full.

(vii) Notwithstanding anything to the contrary in this Guarantee, with respect to any defaulted non-monetary Obligations the specific performance of which by the Guarantors is not reasonably possible (e.g. the issuance of the Company's Common Stock), the Guarantors shall only be liable for making the Purchaser whole on a monetary basis for the Company's failure to perform such Obligations in accordance with the Transaction Documents.

(b) Right of Contribution. Subject to Section 2(c), each Guarantor hereby agrees that to the extent that a Guarantor shall have paid more than its proportionate share of any payment made hereunder, such Guarantor shall be entitled to seek and receive contribution from and against any other Guarantor hereunder which has not paid its proportionate share of such payment. Each Guarantor's right of contribution shall be subject to the terms and conditions of Section 2(c). The provisions of this Section 2(b) shall in no respect limit the obligations and liabilities of any Guarantor to the Purchaser and each Guarantor shall remain liable to the Purchaser for the full amount guaranteed by such Guarantor hereunder.

(c) Agreement to Pay; No Subrogation.

Without limiting any other right that the Purchaser has at law or in equity against any Guarantor, if the Company or any other Guarantor fails to pay any Obligation when and as due, whether at maturity, by acceleration, after notice of prepayment or otherwise, each Guarantor agrees to promptly pay the amount of such unpaid Obligations to the Purchaser in cash. Notwithstanding any payment made by any Guarantor hereunder or any set-off or application of funds of any Guarantor by the Purchaser, no Guarantor shall be entitled to be subrogated to any of the rights of the Purchaser against the Company or any other Guarantor or any collateral security or guarantee or right of offset held by the Purchaser for the payment of the Obligations, nor shall any Guarantor seek or be entitled to seek any contribution or reimbursement from the Company or any other Guarantor in respect of payments made by such Guarantor hereunder, until all amounts owing to the Purchaser by the Company and the Guarantors on account of the Obligations are indefeasibly paid in full. If any amount shall be paid to any Guarantor on account of such subrogation, exoneration, contribution, reimbursement, indemnity or similar rights at any time when all of the Obligations shall not have been paid in full, such amount shall be held by such Guarantor in trust for the benefit of the Purchaser, segregated from other funds of such Guarantor, and shall, forthwith upon receipt by such Guarantor, be turned over to the Purchaser in the exact form received by such Guarantor (duly indorsed by such Guarantor to the Purchaser, if required), to be applied against the Obligations, whether matured or unmatured, in such order as the Purchaser may determine.

(d) Amendments, Etc. With Respect to the Obligations. Each Guarantor shall remain obligated hereunder notwithstanding that, without any reservation of rights against any Guarantor and without notice to or further assent by any Guarantor, any demand for payment of any of the Obligations made by the Purchaser may be rescinded by the Purchaser and any of the Obligations continued, and the Obligations, or the liability of any other person upon or for any part thereof, or any collateral security or guarantee therefor or right of offset with respect thereto, may, from time to time, in whole or in part, be renewed, extended, amended, modified, accelerated, compromised, waived, surrendered or released by the Purchaser, and the Purchase Agreement and the other Transaction Documents and any other documents executed and delivered in connection therewith may be amended, modified, supplemented or terminated, in whole or in part, as the Purchaser may deem advisable from time to time, and any collateral security, guarantee or right of offset at any time held by the Purchaser for the payment of the Obligations may be sold, exchanged, waived, surrendered or released. The Purchaser shall have no obligation to protect, secure, perfect or insure any Lien at any time held by them as security for the Obligations or for the guarantee contained in this Section 2 or any property subject thereto.

(e) Guarantee Absolute and Unconditional. Each Guarantor waives any and all notice of the creation, renewal, extension or accrual of any of the Obligations and notice of or proof of reliance by the Purchaser upon the guarantee contained in this Section 2 or acceptance of the guarantee contained in this Section 2; the Obligations, and any of them, shall conclusively be deemed to have been created, contracted or incurred, or renewed, extended, amended or waived, in reliance upon the guarantee contained in this Section 2; and all dealings between the Company and any of the Guarantors, on the one hand, and the Purchaser, on the other hand, likewise shall be conclusively presumed to have been had or consummated in reliance upon the guarantee contained in this Section 2. Each Guarantor waives to the extent permitted by law diligence, presentment, protest, demand for payment and notice of default or nonpayment to or upon the Company or any of the Guarantors with respect to the Obligations. Each Guarantor understands and agrees that the guarantee contained in this Section 2 shall be construed as a continuing, absolute and unconditional guarantee of payment and performance without regard to (a) the illegality or validity or enforceability of the Purchase Agreement or any other Transaction Document, any of the Obligations or any other collateral security therefor or guarantee or right of offset with respect thereto at any time or from time to time held by the Purchaser, (b) any change in the time, place or manner of payment of, or in any other term of, the Obligations or any other obligation of the Company or any Guarantor under any Transaction Document, or any rescission, waiver, amendment or other modification of any Transaction Document or any other agreement, including any increase in the Obligations resulting from any extension of additional credit or otherwise, (c) any taking, exchange, substitution, release, impairment or non-perfection of any collateral, or any taking, release, impairment, amendment, waiver or other modification of any guaranty, for the Obligations, (d) any manner of sale, disposition or application of proceeds of any collateral or other assets to all or part of the Obligations, (e) any default, failure or delay, willful or otherwise, in the performance of the Obligations, (f) any change, restructuring or termination of the corporate structure, ownership or existence of the Company or any Guarantor or any of their subsidiaries or any insolvency, bankruptcy, reorganization or other similar proceeding affecting the Company or its assets or any resulting release or discharge of any Obligation, (g) any failure of the Purchaser to disclose to the Company or any Guarantor any information relating to the business, condition (financial or otherwise), operations, performance, properties or prospects of any other Guarantor or the Company now or hereafter known to the Purchaser (each Guarantor waiving any duty of the Purchaser to disclose such information), (h) the failure of any other Person to execute or deliver this Guarantee, any Assumption Agreement referred to Section 5(m) hereof or any other guaranty or agreement or the release or reduction of liability of any Guarantor or other guarantor or surety with respect to the Obligations, (i) the failure of the Purchaser to assert any claim or demand or to exercise or enforce any right or remedy under the provisions of any Transaction Document or otherwise, (j) any defense, set-off or counterclaim (other than a defense of payment or performance) which may at any time be available to or be asserted by the Company or any other Person against the Purchaser, or (k) any other circumstance whatsoever (with or without notice to or knowledge of the Company or such Guarantor) which constitutes, or might be construed to constitute, an equitable or legal discharge of the Company for the Obligations, or of such Guarantor under the guarantee contained in this Section 2, in bankruptcy or in any other instance (including, without limitation, any statute of limitations). When making any demand hereunder or otherwise pursuing its rights and remedies hereunder against any Guarantor, the Purchaser may, but shall be under no obligation to, make a similar demand on or otherwise pursue such rights and remedies as they may have against the Company, any other Guarantor or any other Person or against any collateral security or guarantee for the Obligations or any right of offset with respect thereto, and any failure by the Purchaser to make any such demand, to pursue such other rights or remedies or to collect any payments from the Company, any other Guarantor or any other Person or to realize upon any such collateral security or guarantee or to exercise any such right of offset, or any release of the Company, any other Guarantor or any other Person or any such collateral security, guarantee or right of offset, shall not relieve any Guarantor of any obligation or liability hereunder, and shall not impair or affect the rights and remedies, whether express, implied or available as a matter of law, of the Purchaser against any Guarantor. For the purposes hereof, "demand" shall include the commencement and continuance of any legal proceedings.

(f) Each Guarantor acknowledges that the Purchaser may, at its election and without notice to or demand upon such Guarantor, foreclose on any collateral held by it by one or more judicial or non-judicial sales, accept an assignment of any such collateral in lieu of foreclosure, compromise or adjust any part of the Obligations, make any other accommodation with the Company or any other guarantor or exercise any other right or remedy available to it against the Company or any other guarantor, without affecting or impairing in any way the liability of any Guarantor hereunder except to the extent the Obligations have been paid in full or collateralized in full in cash. Each Guarantor hereby waives any defense arising out of such election even though such election operates, pursuant to applicable law, to impair or to extinguish any right of subrogation, reimbursement, exoneration, contribution or indemnification or other right or remedy of such Guarantor against the Company or any other guarantor or any collateral.

(g) Reinstatement. The guarantee contained in this Section 2 shall continue to be effective, or be reinstated, as the case may be, if at any time payment, or any part thereof, of any of the Obligations is rescinded or must otherwise be restored or returned by the Purchaser or any other Person upon the insolvency, bankruptcy, dissolution, liquidation or reorganization of the Company or any Guarantor, or upon or as a result of the appointment of a receiver, intervenor or conservator of, or trustee or similar officer for, the Company or any Guarantor or any substantial part of its property, or otherwise, all as though such payments had not been made.

(h) Payments. Each Guarantor hereby guarantees that payments hereunder will be paid to the Purchaser without set-off or counterclaim in U.S. dollars at the address set forth or referred to in the Signature Pages to the Purchase Agreement.

3. Representations and Warranties. Each Guarantor hereby makes the following representations and warranties to Purchaser as of the date hereof:

(a) Organization and Qualification. The Guarantor is an entity, duly organized, validly existing and in good standing under the laws of the applicable jurisdiction set forth on Schedule 1, with the requisite corporate power and authority to own and use its properties and assets and to carry on its business as currently conducted. The Guarantor has no subsidiaries other than those identified as such on the Disclosure Schedules to the Purchase Agreement. The Guarantor is duly qualified to do business and is in good standing as a foreign corporation in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, could not, individually or in the aggregate, (x) adversely affect the legality, validity or enforceability of any of this Guarantee in any material respect, (y) have a material adverse effect on the results of operations, assets, business, prospects, or condition (financial or otherwise) of the Guarantor or (z) adversely impair in any material respect the Guarantor's ability to perform fully on a timely basis its obligations under this Guarantee (a "Material Adverse Effect").

(b) Authorization; Enforcement. The Guarantor has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Guarantee, and otherwise to carry out its obligations hereunder. The execution and delivery of this Guarantee by the Guarantor and the consummation by it of the transactions contemplated hereby have been duly authorized by all requisite corporate action on the part of the Guarantor. This Guarantee has been duly executed and delivered by the Guarantor and constitutes the valid and binding obligation of the Guarantor enforceable against the Guarantor in accordance with its terms, except as such enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, liquidation or similar laws relating to, or affecting generally the enforcement of, creditors' rights and remedies or by other equitable principles of general application.

(c) No Conflicts. The execution, delivery and performance of this Guarantee by the Guarantor and the consummation by the Guarantor of the transactions contemplated thereby do not and will not (i) conflict with or violate any provision of its Certificate of Incorporation or By-laws or (ii) conflict with, constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which the Guarantor is a party, or (iii) result in a violation of any law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority to which the Guarantor is subject (including Federal and State securities laws and regulations), or by which any material property or asset of the Guarantor is bound or affected, except in the case of each of clauses (ii) and (iii), such conflicts, defaults, terminations, amendments, accelerations, cancellations and violations as could not, individually or in the aggregate, have or result in a Material Adverse Effect. The business of the Guarantor is not being conducted in violation of any law, ordinance or regulation of any governmental authority, except for violations which, individually or in the aggregate, do not have a Material Adverse Effect.

(d) Consents and Approvals. The Guarantor is not required to obtain any consent, waiver, authorization or order of, or make any filing or registration with, any court or other federal, state, local, foreign or other governmental authority or other person in connection with the execution, delivery and performance by the Guarantor of this Guarantee.

(e) Purchase Agreement. The representations and warranties of the Company set forth in the Purchase Agreement as they relate to such Guarantor, each of which is hereby incorporated herein by reference, are true and correct as of each time such representations are deemed to be made pursuant to such Purchase Agreement, and the Purchaser shall be entitled to rely on each of them as if they were fully set forth herein, provided that each reference in each such representation and warranty to the Company's knowledge shall, for the purposes of this Section 3, be deemed to be a reference to such Guarantor's knowledge.

(f) Foreign Law. Each Guarantor has consulted with appropriate foreign legal counsel with respect to any of the above representations for which non-U.S. law is applicable. Such foreign counsel have advised each applicable Guarantor that such counsel knows of no reason why any of the above representations would not be true and accurate. Such foreign counsel were provided with copies of this Guarantee and the other Transaction Documents prior to rendering their advice.

(g) Independent Analysis. Each Guarantor has, independently and without reliance upon the Purchaser and based on such documents and information as it has deemed appropriate, made its own credit analysis and decision to enter into this Guarantee and any other Transaction Document to which it is or may become a party, and has established adequate procedures for continually obtaining information pertaining to, and is now and at all times will be completely familiar with, the business, condition (financial or otherwise), operations, performance, properties and prospects of the Company and each other Guarantor.

4. Covenants.

(a) Each Guarantor covenants and agrees with the Purchaser that, from and after the date of this Guarantee until the Obligations shall have been indefeasibly paid in full, such Guarantor shall take, and/or shall refrain from taking, as the case may be, each commercially reasonable action that is necessary to be taken or not taken, as the case may be, so that no Event of Default (as defined in the Note) is caused by the failure to take such action or to refrain from taking such action by such Guarantor.

(b) So long as any of the Obligations are outstanding, unless Holders holding at least 67% of the aggregate principal amount of the then outstanding Note shall otherwise consent in writing, each Guarantor will not directly or indirectly on or after the date of this Guarantee:

(i) enter into, create, incur, assume or suffer to exist any indebtedness for borrowed money of any kind, including but not limited to, a guarantee, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom;

(ii) enter into, create, incur, assume or suffer to exist any liens of any kind, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom (other than liens in favor of the Purchaser granted under or pursuant to any of the Transaction Documents);

(iii) amend its certificate of incorporation, bylaws or other charter documents so as to adversely affect any rights of the Purchaser;

(iv) repay, repurchase or offer to repay, repurchase or otherwise acquire more than a de minimis number of shares of its securities or debt obligations;

(v) pay cash dividends on any equity securities of the Company;

(vi) enter into any transaction with any Affiliate of the Guarantor which would be required to be disclosed in any public filing of the Company with the Commission, unless such transaction is made on an arm's-length basis and expressly approved by a majority of the disinterested directors of the Company (even if less than a quorum otherwise required for board approval); or

(vii) enter into any agreement with respect to any of the foregoing.

5. Miscellaneous.

(a) Amendments in Writing. None of the terms or provisions of this Guarantee may be waived, amended, supplemented or otherwise modified except in writing by the Purchaser.

(b) Notices. All notices, requests and demands to or upon the Purchaser or any Guarantor hereunder shall be effected in the manner provided for in the Purchase Agreement, provided that any such notice, request or demand to or upon any Guarantor shall be addressed to such Guarantor at its notice address set forth on Schedule 5(b).

(c) No Waiver By Course Of Conduct; Cumulative Remedies. The Purchaser shall not by any act (except by a written instrument pursuant to Section 5(a)), delay, indulgence, omission or otherwise be deemed to have waived any right or remedy hereunder or to have acquiesced in any default under the Transaction Documents or Event of Default. No failure to exercise, nor any delay in exercising, on the part of the Purchaser, any right, power or privilege hereunder shall operate as a waiver thereof. No single or partial exercise of any right, power or privilege hereunder shall preclude any other or further exercise thereof or the exercise of any other right, power or privilege. A waiver by the Purchaser of any right or remedy hereunder on any one occasion shall not be construed as a bar to any right or remedy which the Purchaser would otherwise have on any future occasion. The rights and remedies herein provided are cumulative, may be exercised singly or concurrently and are not exclusive of any other rights or remedies provided by law.

(d) Enforcement Expenses; Indemnification.

(i) Each Guarantor agrees to pay, or reimburse the Purchaser for, all its costs and expenses incurred in collecting against such Guarantor under the guarantee contained in Section 2 or otherwise enforcing or preserving any rights under this Guarantee and the other Transaction Documents to which such Guarantor is a party, including, without limitation, the reasonable fees and disbursements of counsel to the Purchaser.

(ii) Each Guarantor agrees to pay, and to save the Purchaser harmless from, any and all liabilities with respect to, or resulting from any delay in paying, any and all stamp, excise, sales or other taxes which may be payable or determined to be payable in connection with any of the transactions contemplated by this Guarantee.

(iii) Each Guarantor agrees to pay, and to save the Purchaser harmless from, any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever with respect to the execution, delivery, enforcement, performance and administration of this Guarantee to the extent the Company would be required to do so pursuant to the Purchase Agreement.

(iv) The agreements in this Section shall survive repayment of the Obligations and all other amounts payable under the Purchase Agreement and the other Transaction Documents.

(e) Successor and Assigns. This Guarantee shall be binding upon the successors and assigns of each Guarantor and shall inure to the benefit of the Purchaser and their respective successors and assigns; provided that no Guarantor may assign, transfer or delegate any of its rights or obligations under this Guarantee without the prior written consent of the Purchaser.

(f) Set-Off. Each Guarantor hereby irrevocably authorizes the Purchaser at any time and from time to time while an Event of Default under any of the Transaction Documents shall have occurred and be continuing, without prior notice to such Guarantor or any other Guarantor, any such notice being expressly waived by each Guarantor, to set-off and appropriate and apply any and all deposits (general or special, time or demand, provisional or final but excluding trust accounts), in any currency, and any other credits, indebtedness or claims, in any currency, in each case whether direct or indirect, absolute or contingent, matured or unmatured, at any time held or owing by the Purchaser to or for the credit or the account of such Guarantor, or any part thereof in such amounts as the Purchaser may elect, against and on account of the obligations and liabilities of such Guarantor to the Purchaser hereunder and claims of every nature and description of the Purchaser against such Guarantor, in any currency, whether arising hereunder, under the Purchase Agreement, any other Transaction Document or otherwise, as the Purchaser may elect, whether or not the Purchaser have made any demand for payment and although such obligations, liabilities and claims may be contingent or unmatured. The Purchaser shall notify such Guarantor promptly of any such set-off and the application made by the Purchaser of the proceeds thereof, provided that the failure to give such notice shall not affect the validity of such set-off and application. The rights of the Purchaser under this Section are in addition to other rights and remedies (including, without limitation, other rights of set-off) which the Purchaser may have.

(g) Counterparts. This Guarantee may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and, all of which taken together shall constitute one and the same agreement. In the event that any signature is delivered by facsimile or electronic (i.e., "pdf" or "tiff") transmission, such signature shall create a valid binding obligation of the party executing (or on whose behalf such signature is executed) the same and shall be effective as delivery of a manually signed original.

(h) Severability. Any provision of this Guarantee which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

(i) Section Headings. The Section headings used in this Guarantee are for convenience of reference only and are not to affect the construction hereof or be taken into consideration in the interpretation hereof.

(j) Integration. This Guarantee and the other Transaction Documents represent the entire agreement of the Guarantors and the Purchaser with respect to the subject matter hereof and thereof, and there are no promises, undertakings, representations or warranties by the Purchaser relative to subject matter hereof and thereof not expressly set forth or referred to herein or in the other Transaction Documents.

(k) Governing Laws. All questions concerning the construction, validity, enforcement and interpretation of this Guarantee shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each of the Company and the Guarantors agree that all proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Guarantee (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York, Borough of Manhattan. Each of the Company and the Guarantors hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such proceeding is improper. Each party hereto hereby irrevocably waives personal service of process and consents to process being served in any such proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Guarantee and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

(l) Language. This Guarantee is made in both the English and the Russian languages. In case of any inconsistencies between the English and the Russian versions the English version of this Agreement shall prevail.

(m) Acknowledgements. Each Guarantor hereby acknowledges that:

(i) it has been advised by counsel in the negotiation, execution and delivery of this Guarantee and the other Transaction Documents to which it is a party;

(ii) the Purchaser have no fiduciary relationship with or duty to any Guarantor arising out of or in connection with this Guarantee or any of the other Transaction Documents, and the relationship between the Guarantors, on the one hand, and the Purchaser, on the other hand, in connection herewith or therewith is solely that of debtor and creditor; and

(iii) no joint venture is created hereby or by the other Transaction Documents or otherwise exists by virtue of the transactions contemplated hereby among the Guarantors and the Purchaser.

(n) Additional Guarantors. The Company shall cause each of its direct and indirect subsidiaries formed or acquired on or subsequent to the date hereof to become a Guarantor for all purposes of this Guarantee by executing and delivering an Assumption Agreement in the form of Annex 1 hereto.

(o) Release of Guarantors. Each Guarantor will be released from all liability hereunder concurrently with the indefeasible repayment in full of all amounts owed under the Purchase Agreement, the Note and the other Transaction Documents. Any such release of a Guarantor shall be deemed subject to the provision that the liability of the Guarantor hereunder shall be reinstated if after such release any portion of any payment in respect of the Obligations shall be rescinded or must otherwise be restored or returned upon the insolvency, bankruptcy, dissolution, liquidation or reorganization of the Company or any Guarantor, or upon or as a result of the appointment of a receiver, intervenor or conservator of, or trustee or similar officer for, the Company or any Guarantor or any substantial part of its property, or otherwise, all as though such payment had not been made.

(p) Seniority. The Obligations of each of the Guarantors hereunder rank senior in priority to any other Indebtedness (as defined in the Purchase Agreement) of such Guarantor.

(q) WAIVER OF JURY TRIAL. EACH GUARANTOR AND, BY ACCEPTANCE OF THE BENEFITS HEREOF, THE PURCHASER, HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVE, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS GUARANTEE OR THE TRANSACTIONS CONTEMPLATED HEREBY AND FOR ANY COUNTERCLAIM THEREIN.

(Signature Pages Follow)

IN WITNESS WHEREOF, each of the undersigned has caused this Guarantee to be duly executed and delivered as of the date first above written

XENETIC BIOSCIENCES (UK) LIMITED

By: /s/ M. S. Maguire
Name: M. S. Maguire
Title:

LIPOXEN TECHNOLOGIES LIMITED

By: /s/ M. S. Maguire
Name: M. S. Maguire
Title:

XENETIC BIOSCIENCE, INCORPORATED

By: /s/ M. S. Maguire
Name: M. S. Maguire
Title:

SYMBIOTEC GMBH

By: /s/ M. S. Maguire
Name: M. S. Maguire
Title:

SCHEDULE 1

The following are the names, notice addresses and jurisdiction of organization of each Guarantor.

JURISDICTION OF INCORPORATION	COMPANY OWNED BY PERCENTAGE
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Xenetic Biosciences (UK) Limited

Lipoxen Technologies Limited

Xenetic Bioscience, Incorporated

SymbioTec GmbH

SUBSIDIARY GUARANTEE

ASSUMPTION AGREEMENT, dated as of _____, _____ made by _____, a corporation (the "Additional Guarantor"), in favor of the Purchaser pursuant to the Purchase Agreement referred to below. All capitalized terms not defined herein shall have the meaning ascribed to them in such Purchase Agreement.

WITNESSETH:

WHEREAS, Xenetic Biosciences, Inc., a Nevada corporation (the "Company") and the Purchaser has entered into a Securities Purchase Agreement, dated as of __, 2015 (as amended, supplemented or otherwise modified from time to time, the "Purchase Agreement");

WHEREAS, in connection with the Purchase Agreement, the Subsidiaries of the Company (other than the Additional Guarantor) have entered into the Subsidiary Guarantee, dated as of , 2015 (as amended, supplemented or otherwise modified from time to time, the "Guarantee") in favor of the Purchaser;

WHEREAS, the Purchase Agreement requires the Additional Guarantor to become a party to the Guarantee; and

WHEREAS, the Additional Guarantor has agreed to execute and

deliver this Assumption Agreement in order to become a party to the Guarantee;

NOW, THEREFORE, IT IS AGREED:

1. Guarantee. By executing and delivering this Assumption Agreement, the Additional Guarantor, as provided in Section 5(m) of the Guarantee, hereby becomes a party to the Guarantee as a Guarantor thereunder with the same force and effect as if originally named therein as a Guarantor and, without limiting the generality of the foregoing, hereby expressly assumes all obligations and liabilities of a Guarantor thereunder. The information set forth in Annex 1 hereto is hereby added to the information set forth in

Schedule 1 to the Guarantee. The Additional Guarantor hereby represents and warrants that each of the representations and warranties contained in Section 3 of the Guarantee is true and correct on and as the date hereof as to such Additional Guarantor (after giving effect to this Assumption Agreement) as if made on and as of such date.

2. Governing Law. THIS ASSUMPTION AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK, WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF.

IN WITNESS WHEREOF, the undersigned has caused this Assumption Agreement to be duly executed and delivered as of the date first above written.

[ADDITIONAL GUARANTOR]

By:
Name:
Title:

COMMON STOCK PURCHASE WARRANT

XENETIC BIOSCIENCES, INC.

ISSUE DATE: JULY 1, 2015

Warrant Shares: 10,000,000

Initial Exercise Date: January 1, 2016

NEITHER THIS SECURITY NOR THE SECURITIES FOR WHICH THIS SECURITY IS EXERCISABLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY. THIS SECURITY AND THE SECURITIES ISSUABLE UPON EXERCISE OF THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN SECURED BY SUCH SECURITIES.

This Common Stock Purchase Warrant (the "Warrant") certifies that, for value received, OJSC Pharmsynthez or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after January 1, 2016 (the "Initial Exercise Date") and on or prior to the close of business on the five (5) year anniversary of the Issue Date written above (the "Termination Date") but not thereafter, to subscribe for and purchase from Xenetic Biosciences, Inc., a Nevada corporation (the "Company"), up to 10,000,000 shares (as subject to adjustment hereunder, the "Warrant Shares") of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. Capitalized terms shall have the meanings set forth herein. capitalized terms not otherwise defined herein shall have the meanings set forth in the Securities Purchase Agreement, dated as of June 9, 2015 among the Company and the original Holder, as amended, modified or supplemented from time to time in accordance with its terms (the "Purchase Agreement").

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company) of a duly executed facsimile copy of the Notice of Exercise form annexed hereto and within three (3) Trading Days of the date said Notice of Exercise is delivered to the Company, the Company shall have received payment of the aggregate Exercise Price of the shares thereby purchased by wire transfer or cashier's check drawn on a United States bank. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection of a technical nature to any Notice of Exercise Form to the Holder in writing within one (1) Business Day of receipt of such Notice of Exercise Form and the Holder shall promptly re-deliver a revised Notice of Exercise Form to the Company; provided that any such objection shall not invalidate such Notice of Exercise Form when properly completed by the Holder. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be the lesser of: (i) \$0.20 and

(ii) 120% of the Public Offering Price, subject to adjustment hereunder (the "Exercise Price").

c) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. Warrant Shares purchased hereunder shall be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's prime broker with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) the shares are eligible for resale by the Holder without volume or manner-of-sale limitations pursuant to Rule 144, and otherwise by physical delivery to the address specified by the Holder in the Notice of Exercise by the date that is three (3) Trading Days after the latest of (A) the delivery to the Company of the Notice of Exercise and (B) surrender of this Warrant (if required) (such date, the "Warrant Share Delivery Date"). The Warrant Shares shall be deemed to have been issued, and Holder or any other person so designated to be named therein shall be deemed to have become a holder of record of such shares for all purposes, as of the date the Warrant has been exercised, with payment to the Company of the Exercise Price and all taxes required to be paid by the Holder, if any, pursuant to Section 2(c)(vi) prior to the issuance of such shares, having been paid. If the Company fails for any reason to deliver to the Holder the Warrant Shares

subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth (5th) Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise.

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

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

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

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

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

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

(d) Cashless Exercise. This Warrant may also be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing $[(A-B) (X)]$ by (A), where:

(A) = the VWAP on the Trading Day immediately preceding the date on which Holder elects to exercise this Warrant by means of a "cashless exercise," as set forth in the applicable Notice of Exercise;

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

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

(e) Cash Settlement. If on any day the Holder delivers a Notice of Exercise and the number of authorized and unissued shares of Common Stock on such date does not at least equal the number of shares of Common Stock to be delivered to the Holder pursuant to such Notice of Exercise, the Company shall, within three (3) Trading Days of the date of such Notice of Exercise, deliver to the Holder an amount in cash equal to the number of shares of Common Stock so unavailable multiplied by the difference between the Exercise Price on such date and the closing price of the Common Stock on the Trading Market on such date.

Section 3. Certain Adjustments.

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

b) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.

c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution.

d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock,

(iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder, the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction. For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any Successor Entity (as defined below) shall, at the Holder’s option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction, purchase this Warrant from the Holder by paying to the Holder an amount of cash equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction. “Black Scholes Value” means the value of this Warrant based on the Black and Scholes Option Pricing Model obtained from the “OV” function on Bloomberg, L.P. (“Bloomberg”) determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date, (B) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction, (C) the underlying price per share used in such calculation shall be the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction and (D) a remaining option time equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Company under this Warrant and the other Transaction Documents in accordance with the provisions of this Section 3(e) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

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

f) Increase of Warrant Shares. In the event that a Public Offering is consummated while the Note is outstanding that results in the Company obtaining financing of seven million dollars (\$7,000,000) or greater, and such Public Offering provides greater warrant coverage than provided in the Purchase Agreement, then the Purchaser shall be granted additional Warrants such that the Purchaser is covered, relative to the Subscription Amount, on a percentage basis that equals the warrant coverage provided in the Public Offering relative to the gross offering price.

g) Notice to Holder.

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

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

Section 4. Transfer of Warrant.

a) Transferability. Subject to compliance with any applicable securities laws and the conditions set forth in Section 4(d) hereof, this Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date the Holder delivers an assignment form to the Company assigning this Warrant full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the Initial Exercise Date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

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

d) Representation by the Holder. The Holder, by the acceptance hereof, represents and warrants that it is acquiring this Warrant and, upon any exercise hereof, will acquire the Warrant Shares issuable upon such exercise, for its own account and not with a view to or for distributing or reselling such Warrant Shares or any part thereof in violation of the Securities Act or any applicable state securities law, except pursuant to sales registered or exempted under the Securities Act.

Section 5. Miscellaneous.

a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(c)(i), except as expressly set forth in Section 3.

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

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

d) Authorized Shares.

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

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

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

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

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

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that all rights hereunder terminate on the Termination Date. If the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of:

(a) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto at or prior to 5:30 p.m. (New York City time) on a Trading Day;

(b) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day;

(c) the second (2nd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service; or

(d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto.

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

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

k) Language. This Warrant is made in both the English and the Russian languages. In case of any inconsistencies between the English and the Russian versions the English version of this Agreement shall prevail.

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

m) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

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

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

(Signature Page Follows)

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

XENETIC BIOSCIENCES, INC.

By: /s/ M.Scott Maguire
Name: M. Scott Maguire
Title: _____

Address

NOTICE OF EXERCISE

TO: XENETIC BIOSCIENCES, INC.

The undersigned hereby elects to purchase Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any

(2) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below

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

(3) Accredited Investor. The undersigned is an “accredited investor” as defined in Regulation D promulgated under the Securities Act of 1933, as amended.

[SIGNATURE OF HOLDER]

Name of Investing Entity

Signature of Authorized Signatory of Investing Entity

Name of Authorized Signatory

Title of Authorized Signatory

Date:

EXHIBIT B

ASSIGNMENT FORM

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

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

Name:

(Please Print)

Address:

(Please Print)

Dated: _____

Holder's Signature: _____

Holder's Address: _____

ASSIGNMENT AND ASSUMPTION AGREEMENT

This **Assignment and Assumption Agreement** (“Assignment”) is effective as of July 1, 2015 (“Effective Date”) by and among OJSC Pharmsynthez, a Russian open joint stock company (“Pharm” or (“ASSIGNOR”) and OPKO Pharmaceuticals, LLC (“OPKO or “ASSIGNEE,” and collectively with ASSIGNOR, the “Parties”).

WHEREAS, Pharm and Xenetic Biosciences, Inc., a Nevada corporation (“Xenetic”), have entered into a financing transaction under that certain Securities Purchase Agreement by and between Pharm and Xenetic dated June 30, 2015 (the “Purchase Agreement”), pursuant to which (i) Pharm acquired a Ten Percent (10%) Senior Secured Collateralized Convertible Promissory Note in the principal amount of \$3 million (the “Note”) from Xenetic, and (ii) Xenetic granted Pharm a security interest in substantially all of its assets as set forth in that Security Agreement between Pharm and Xenetic, dated of even date (the “Security Agreement,” and together with the Purchase Agreement, the “Xenetic Agreements”).

WHEREAS, OPKO and Pharm have entered into various transactions pursuant to which (i) OPKO will provide financing to Pharm (the “Pharm Financing”) as described in the Pharm Note Purchase Agreement dated of even date (the “Pharm Note Agreement”) upon the terms set forth therein, and (ii) Pharm is to repay the principal amount lent to it together with additional consideration in the form of, among other things, an assignment of all of its rights in and pursuant to the Security Agreement with Xenetic.

WHEREAS, Subject to the terms and conditions hereof, Pharm desires to assign all of its right, title and interest in and under the Security Agreement to OPKO.

WHEREAS, subject to the terms and conditions hereof, OPKO desires to accept and assume the Security Agreement and such rights, obligations and liabilities of a Secured Party under the Agreement.

NOW, THEREFORE, for Ten Dollars (\$10.00) and in consideration of the mutual covenants and agreements set forth herein and in the Pharm Note Purchase Agreement, and for other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as set forth below.

1. Assignment and Assumption. The Parties agree that with regard to the Security Agreement and as set forth herein, ASSIGNOR hereby sells, transfers, conveys, delivers, assigns and delegates to ASSIGNEE, and ASSIGNEE hereby accepts and assumes the Security Agreement and all of ASSIGNOR's rights, obligations and liabilities under the Security Agreement (the "Assigned Obligations") in accordance with the terms and conditions thereof; *provided, however*, that ASSIGNEE does not assume any liability for any breach or failure to perform under any Assumed Obligation that results from any act, event, circumstance or omission of ASSIGNOR or any other party occurring prior or following the date hereof. ASSIGNOR agrees to indemnify and hold harmless ASSIGNEE from and against any loss, damage, cost or expense in connection with such default. Except for the Assigned Obligations, ASSIGNEE is not assuming and is not liable for any other liabilities, debts or obligations of ASSIGNOR whatsoever.

2. Representations and Warranties. ASSIGNOR hereby represents and warrants that ASSIGNOR has the full right and authority to assign the Security Agreement and the Assigned Obligations to ASSIGNEE, and all required consents and approvals to such assignments have been obtained by ASSIGNOR from any and all necessary parties. ASSIGNOR further represents and warrants to ASSIGNEE that: (i) ASSIGNOR has delivered to ASSIGNEE a true and complete copy of the Security Agreement and the Note, which have not been amended to date and which are in full force and effect as of the date hereof; (ii) as of the Effective Date, ASSIGNOR will hold good and valid title to all of its contractual rights in the Security Agreement and Note, free and clear of any and all liens and encumbrances; (iii) to ASSIGNOR's knowledge, there does not exist under the Security Agreement or Note any violation, breach or event of default, or event or condition that, after notice or lapse of time or both, would constitute a material violation, breach or event of default thereunder on the part of ASSIGNOR, and ASSIGNOR neither has received any notice nor has any knowledge of any claim alleging any such violation, breach or default; and (iv) there are no suits, actions, claims, complaints, litigation, investigations or legal or administrative or arbitration proceedings pending or, to ASSIGNOR's knowledge, threatened, whether at law or in equity, before or by any federal, foreign, state, local or other governmental agency or any judgments, decrees, injunctions, rulings, awards or orders of any governmental agency against ASSIGNOR or any of its affiliates which would reasonably be likely to materially affect this Assignment or the Security Agreement, the Note, or any other agreements, documents and instruments to be executed in connection herewith.

3. Power of Attorney. ASSIGNOR appoints ASSIGNEE, its successors and assigns as the true and lawful attorney-in-fact of ASSIGNOR, with full power of substitution, having full right and authority, in the name of ASSIGNOR to collect or enforce for the account of ASSIGNEE, liabilities and obligations of third parties under the Security Agreement and Note (upon Default by Xenetic); to institute and prosecute all proceedings that ASSIGNEE may deem proper in order to enforce any claim to obligations owed under the Security Agreement and the Note (upon Default by Xenetic), to defend and compromise any and all actions, suits or proceedings in respect of the Security Agreement, and to do all such acts in relation to the Security Agreement and Note (upon Default by Xenetic) that ASSIGNEE may deem advisable. ASSIGNOR agrees that the above-stated powers are coupled with an interest and shall be irrevocable by ASSIGNOR.

4. Payment of Amounts Due. ASSIGNOR hereby authorizes and directs all obligors under the Security Agreement to deliver any warrants, checks, drafts or payments to be issued or paid to ASSIGNOR pursuant to the Agreement to ASSIGNEE; and ASSIGNOR further authorizes ASSIGNEE to receive such warrants, checks, drafts or payments from such obligors and to endorse ASSIGNEE's name on them and to collect all funds due or to become due under the Security Agreement or Note.

5. Payments Held in Trust. Any payment that may be received by ASSIGNOR to which ASSIGNEE is entitled by reason of this Assignment shall be received by ASSIGNOR as trustee for ASSIGNEE, and will be immediately delivered to ASSIGNEE without commingling with any other funds of ASSIGNOR.

6. Notice of Assignment. Notice of the assignment under this Assignment shall be given by ASSIGNOR to all parties to the Security Agreement and the Assigned Obligations (other than ASSIGNOR) or to such parties' duly authorized agents.

7. Amendments and Waivers. The terms and provisions of this Assignment may be modified or amended only by written agreement executed by all of the Parties. The terms and provisions of this Assignment may be waived, or consent for the departure therefrom granted, only by written document executed by the Party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Assignment, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

8. Headings; Severability. All section headings used herein are for reference and identification purposes only and are not intended to, and shall not under any circumstances, serve to alter, amend, amplify, vary, or limit the express provisions hereof. If any provision of this Assignment or the application of any such provision to any person or circumstance shall be held invalid, illegal or unenforceable in any respect by a court of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other provision hereof. To the extent permitted by law, the Parties hereby waive any provision of law that renders any provision of this Assignment invalid or unenforceable in any respect.

9. Governing Law. The Assignment and any actions arising out of or relating to this Assignment shall be governed by and construed and interpreted in accordance with the laws of New York without regard to the conflict of law provisions thereof.

10. Counterparts. This Assignment may be executed in multiple counterparts, each of which shall be deemed to be an original and of equal force and effect, but all of which taken together shall constitute one and the same instrument. A facsimile, digital, PDF, e-mail or other electronic copy hereof shall suffice as an original signature.

11. Successors and Assigns. The statements, representations, warranties, covenants and agreements in this Assignment shall inure to the benefit of, and be binding upon, the Parties hereto and their respective heirs, successors, trustees, transferees and permitted assigns.

12. Further Assurances. In case at any time after the date of this Assignment any further action is necessary to carry out the purposes of this Assignment, each of the Parties will take such further action (including the execution and delivery of such further instruments, notices and documents) as the other Party reasonably may request in order to more fully effectuate the assignment and assumption provided for under this Assignment.

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IN WITNESS WHEREOF the parties hereto have executed this Assignment as of the Effective Date set forth above.

ASSIGNOR:



ASSIGNEE:

OPKO Pharmaceuticals, LLC

ASSIGNEE:

OPKO Pharmaceuticals, LLC

By: _____
Name: _____
Title: _____

ACKNOWLEDGEMENT AND AGREEMENT:

Xenetic Biosciences, Inc. hereby acknowledges the assignment of the Security Agreement to OPKO pursuant to this Assignment and Assumption Agreement and that OPKO may hereinafter exercise any and all rights as a Secured Party and Agent under the Security Agreement if and when entitled.

Xenetic Biosciences, Inc.

/s/ M. Scott Maguire

Title: M. Scott Maguire
Date: July 3, 2015



Xenetic Biosciences Completes \$3,000,000 Bridge Note Financing

LEXINGTON, MA, July 8, 2015: Xenetic Biosciences, Inc. (“Xenetic” or the “Company”) (OTCQB: XBIO), a biopharmaceutical company focused on developing next-generation biologic drugs and novel orphan oncology therapeutics, today announced that it has completed a \$3,000,000 bridge note financing. The financing was concluded with OJSC Pharmsynthez (“Pharmsynthez”), a collaborative partner of Xenetic and an affiliate of Xenetic’s largest shareholder SynBio LLC (“Synbio”) and was arranged directly between the managements of Xenetic and Pharmsynthez on a commission free basis.

The \$3,000,000 was received from the sale of a ten percent (10%) senior secured collateralized convertible promissory note due July 1, 2016 (the “Note”). The Note is convertible, in whole or in part, into shares of Common Stock of the Company at the option of Pharmsynthez. In addition, in connection with the sale of the Note, Pharmsynthez received certain five year warrants to purchase shares of Common Stock of the Company. Please refer to SEC form 8-K filed on July 8, 2015 for further material information regarding the bridge note financing.

“We are very pleased to have completed this important bridge note financing with a company that has been associated with Xenetic for fifteen years,” said Scott Maguire, Chief Executive Officer of Xenetic. “Pharmsynthez is an important collaborator with Xenetic. The partnership covers six drug candidates currently in development in Russia which include indications for cystic fibrosis and obesity with the intention that the Company will eventually seek approval of these drug candidates in the global markets.”

“These funds will allow us to continue with our plan to seek a listing of the Company’s shares on a national U.S. securities exchange that offers greater liquidity and will allow Xenetic to trade alongside its peers, therefore allowing greater exposure to the life science investment community. We believe that this financing, which was concluded with an affiliate of our single largest shareholder, reflects a belief in the potential of the Company’s core technologies. Our primary focus remains to improve the human condition by developing and offering safer and more effective treatments via the development of our portfolio of proprietary products. We are looking forward to the future with great confidence.”

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About Xenetic Biosciences

Xenetic Biosciences is a biopharmaceutical company developing next-generation biologic drugs and novel oncology therapeutics. Xenetic's proprietary drug technology platforms include PolyXen®, designed to develop next generation biologic drugs by extending the efficacy, safety and half-life of biologic drugs and OncoHist® for the development of novel oncology drugs focused on orphan indications.

Xenetic's lead product candidates include ErepoXen®, a polysialylated form of erythropoietin (EPO) for the treatment of anemia in pre-dialysis patients with chronic kidney disease, and OncoHist®, a novel recombinant human histone H1.3 molecule for the treatment of refractory Acute Myeloid Leukemia (AML) with potential to treat numerous other cancer indications. Xenetic is collaborating with Russian-based OJSC Pharmsynthez (who is an affiliate of a significant shareholder in Xenetic) and the Serum Institute of India to test additional drug and vaccine candidates and to de-risk the development process with clinical data generated in Russia and India before Xenetic takes these candidates into the clinic in the Western markets.

Xenetic is also developing a broad pipeline of clinical candidates for next generation biologics and novel oncology therapeutics in a number of orphan disease indications. For more information, please visit the company's website at www.xeneticbio.com.

Baxter Healthcare:

Xenetic is working together with Baxter International Inc. to develop a novel series of polysialylated blood coagulation factors, including a next generation Factor VIII. This collaboration relies on the PolyXen technology to conjugate PSA to therapeutic blood-clotting factors, with the goal of improving the pharmacokinetic profile and extending the active life of these biologic molecules. Baxter is one of the Company's largest shareholders having invested in a number of rounds with the most recent investment of \$10M last year. The agreement is exclusive research, development and license agreement grants Baxter a worldwide, exclusive, royalty-bearing license to Xenetic's PSA patented and proprietary technology in combination with Baxter's proprietary molecules designed for the treatment of blood and bleeding disorders. Under the agreement, Xenetic may receive regulatory and sales target receipts for total potential milestones of up to \$100 million plus royalties on sales.

Forward-Looking Statements

This release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including but not limited to, the potential safety, tolerability and efficacy of our product candidates and the advancement of our clinical trials. Forward-looking statements can be identified by terminology such as "anticipate," "believe," "could," "could increase the likelihood," "estimate," "expect," "intend," "is planned," "may," "should," "will," "will enable," "would be expected," "designed to," "look forward," "may provide," "would" or similar terms, variations of such terms or the negative of those terms. Any forward-looking statements in this press release are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, the risk of cessation or delay of any of the ongoing or planned clinical trials and/or our development of our product candidates, the risk that the results of previously conducted studies involving similar product candidates will not be repeated or observed in ongoing or future studies involving current product candidates, the risk that our collaboration with Baxter will not continue or will not be successful, and the risk that any one or more of our product candidates will not be successfully developed and commercialized. For a discussion of other risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in our Annual Report on Form 10-K, as well as discussions of potential risks, uncertainties, and other important factors in our subsequent filings with the Securities and Exchange Commission. All information in this press release is as of the date of the release, and Xenetic undertakes no duty to update this information unless required by law.