

# REPROS THERAPEUTICS INC.

## **FORM 8-K** (Current report filing)

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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

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**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): May 18, 2017

Repros Therapeutics Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware  
(State or Other  
Jurisdiction of  
Incorporation)

001-15281  
(Commission File  
Number)

76-0233274  
(I.R.S. Employer  
Identification No.)

2408 Timberloch Place, Suite B-7  
The Woodlands, TX  
\_\_\_\_\_  
(Address of Principal Executive Offices)

77380  
\_\_\_\_\_  
(Zip Code)

Registrant's telephone number, including area code: (281) 719-3400

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 (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 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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## Item 8.01 Other Events.

On May 18, 2017, Repros Therapeutics Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with Laidlaw & Company (UK) Ltd., as representative of the underwriter named in Schedule A thereto (the “Underwriter”), with respect to the issuance and sale in an underwritten public offering (the “Offering”) by the Company of (i) 2,744,125 shares (the “Shares”) of the Company’s common stock, par value \$0.001 per share (“Common Stock”), each Share to be sold together with a Series A Warrant (“Series A Warrant”) to purchase 0.75 share of Common Stock and a Series B Warrant (“Series B Warrant”) to purchase 0.50 share of Common Stock, and (ii) pre-funded Series C Warrants (“Pre-Funded Series C Warrants” and, together with Series A Warrants and Series B Warrants, the “Warrants”) to purchase up to 2,245,875 shares of Common Stock, to be sold together with a Series A Warrant for each share of Common Stock issuable upon exercise of the Pre-Funded Series C Warrant and a Series B Warrant for each share of Common Stock issuable upon exercise of the Pre-Funded Series C Warrant, to certain investors whose purchase of shares of Common Stock in the Offering would result in the investor, together with its affiliates and certain related parties, beneficially owning more than 4.99% of the Company’s outstanding Common Stock following the consummation of the Offering. The total Series A Warrants and Series B Warrants included in the Offering will be for purchase of 3,742,500 shares of Common Stock and 2,495,000 shares of Common Stock, respectively. The Shares and the Warrants will be issued separately. There is no established public trading market for the Warrants and the Company does not expect a market to develop in the future. The Warrants will be certificated and will be delivered to the investors by physical delivery at the closing. The Offering is expected to close on or about May 23, 2017, subject to the satisfaction of customary closing conditions.

The gross proceeds to the Company from the offering are expected to be approximately \$3.0 million, and the net proceeds to the Company from the offering, after deducting the underwriting discount and commissions and other estimated offering expenses, are expected to be approximately \$2.5 million. The Company intends to use the proceeds from the offering to fund general corporate purposes.

The Shares, the Warrants and the shares of Common Stock underlying the Warrants are registered under the Securities Act of 1933, as amended (the “Securities Act”) pursuant to a shelf registration on Form S-3 (Registration No. 333-197253) ) initially filed by the Company with the Securities and Exchange Commission (the “SEC”) under the Securities Act on July 3, 2014, as amended by Amendment No. 1 on Form S-3 filed with the SEC on July 16, 2014 and declared effective by the SEC on July 24, 2014, which was subsequently amended by Post-Effective Amendment No. 1 on Form S-3 filed with the SEC on June 14, 2016 and declared effective by the SEC on June 23, 2016 (the Registration Statement, as amended and declared effective by the Commission, the “Registration Statement”), a preliminary prospectus supplement dated May 17, 2017 (including the accompanying base prospectus (the “Base Prospectus”) as contained in the Registration Statement) and filed with the SEC on May 18, 2017, and a final prospectus supplement dated May 18, 2017 (including the accompanying Base Prospectus) and filed with the SEC on May 18, 2017, in connection with the Offering. A copy of the opinion of Morgan, Lewis & Bockius LLP relating to the legality of the issuance and sale of the securities sold in this Offering is attached as Exhibit 5.1 hereto.

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The Underwriting Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriters, including for liabilities under the Securities Act of 1933, as amended (the "Securities Act"), other obligations of the parties and termination provisions. The representations, warranties and covenants contained in the Underwriting Agreement were made only for purposes of such agreement and as of specific dates, were solely for the benefit of the parties to such agreement, and may be subject to limitations agreed upon by the contracting parties.

#### Series A Warrants

Series A Warrants are immediately exercisable and will expire on the fifth anniversary of the original issuance date. Series A Warrants have an exercise price of \$0.84 per share of Common Stock. The exercise price of the Series A Warrants is subject to full ratchet adjustment in certain circumstances, subject to a floor price of \$0.17 per share. If the Company fails to timely deliver the shares underlying the Series A Warrants, the Company will be subject to certain buy-in provisions.

If there is no effective registration statement covering the issuance of the shares issuable upon the exercise of the Series A Warrants, the warrants are exercisable on a cashless basis.

If at any time after the issuance date, (i) the closing bid price of Common Stock is equal to or greater than \$1.75 per share for a period 30 consecutive trading days following the applicable determination date (the 30 consecutive trading days on which the condition in this clause (i) is satisfied are referred to herein as the "Measuring Period"), (ii) no Equity Conditions Failure (as defined in the Series A Warrants) have occurred, and (iii) the aggregate dollar trading volume (as reported on Bloomberg Financial Markets) of the Common Stock on the applicable eligible market for each trading day during the Measuring Period exceeds \$225,000 per day, then the Company has the right to purchase the entire then-remaining portion of Series A Warrants from the holders, subject to certain conditions.

In the event of any extraordinary transaction, and generally including any merger with or into another entity, sale of all or substantially all of the Company's assets, tender offer or exchange offer, or reclassification of Common Stock, the holder will have the right to have the Series A Warrants and all obligations and rights thereunder assumed by the successor or acquiring corporation. In the event of an extraordinary transaction, the Company or any successor entity will pay at the holder's option, exercisable at any time concurrently with or within 30 days after the consummation of the extraordinary transaction, an amount of cash equal to the value of the Series A warrants as determined in accordance with the Black Scholes option pricing model and the terms of the warrants.

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A holder of a Series A Warrant will not have the right to exercise any portion of the warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% of the number of shares of Common Stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Series A Warrants; provided that at the election of a holder and notice to the Company such percentage ownership limitation may be increased or decreased to any other percentage, not to exceed 9.99%; provided that any increase will not be effective until the 61st day after such notice is delivered from the holder to the Company.

#### Series B Warrants

Series B Warrants are immediately exercisable and will expire on the second anniversary of the original issuance date. Series B Warrants have an exercise price of \$0.92 per share of Common Stock. The exercise price of the Series B Warrants is subject to full ratchet adjustment in certain circumstances, subject to a floor price of \$0.17 per share. If the Company fails to timely deliver the shares underlying the Series A Warrants, the Company will be subject to certain buy-in provisions.

If there is no effective registration statement covering the issuance of the shares issuable upon the exercise of the Series B Warrants, the warrants are exercisable on a cashless basis. In addition, in lieu of the cashless exercise described in the immediate preceding sentence, beginning 30 days from the issuance date during the warrant exercisability period, the holder is permitted to effect a cashless exercise and receive a net number of shares which is equal to the (i) 200% of the applicable warrant exercise percentage of the initial warrant amount and (ii) the quotient obtained by dividing (A) the difference obtained by subtracting (x) the market price, from (y) the initial exercise price per share of Series B Warrants by (B) the market price.

If at any time after the issuance date, (i) the closing bid price of Common Stock is equal to or greater than \$1.75 per share for a period 30 consecutive trading days following the applicable determination date (the 30 consecutive trading days on which the condition in this clause (i) is satisfied are referred to herein as the "Measuring Period"), (ii) no Equity Conditions Failure (as defined in the Series B Warrants) have occurred, and (iii) the aggregate dollar trading volume (as reported on Bloomberg Financial Markets) of the Common Stock on the applicable eligible market for each trading day during the Measuring Period exceeds \$225,000 per day, then the Company has the right to purchase the entire then-remaining portion of Series A Warrants from the holders, subject to certain conditions.

In the event of any extraordinary transaction, and generally including any merger with or into another entity, sale of all or substantially all of the Company's assets, tender offer or exchange offer, or reclassification of Common Stock, the holder will have the right to have the Series B Warrants and all obligations and rights thereunder assumed by the successor or acquiring corporation. In the event of an extraordinary transaction, the Company or any successor entity will pay at the holder's option, exercisable at any time concurrently with or within 30 days after the consummation of the extraordinary transaction, an amount of cash equal to the value of the Series B warrants as determined in accordance with the Black Scholes option pricing model and the terms of the warrants.

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A holder of a Series B Warrant will not have the right to exercise any portion of the warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% of the number of shares of Common Stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Series B Warrants; provided that at the election of a holder and notice to the Company such percentage ownership limitation may be increased or decreased to any other percentage, not to exceed 9.99%; provided that any increase will not be effective until the 61st day after such notice is delivered from the holder to us.

#### Pre-Funded Series C Warrants

Pre-Funded Series C Warrants are immediately exercisable and will expire on the second anniversary of the original issuance date. The Series C Warrants exercise price is \$0.60 per share of Common stock. The exercise price of the Pre-Funded Series C Warrants, except for the nominal exercise price of \$0.001 per share of Common Stock, will have been Pre-Funded to the Company and, consequently, no additional consideration (other than the nominal exercise price of \$0.001 per share of Common Stock) will be required to be paid by the holders to any person to effect any exercise of the Pre-Funded Series C Warrants. The holder will not be entitled to the return or refund of all, or any portion, of such Pre-Funded exercise price under any circumstance or for any reason whatsoever, including in the event a Pre-Funded Series C Warrant will not have been exercised prior to its expiration.

If there is no effective registration statement covering the issuance of the shares issuable upon the exercise of the Pre-Funded Series C Warrants, the warrants are exercisable on a cashless basis.

In the event of any extraordinary transaction, and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our Common Stock, the holder will have the right to have the Pre-Funded Series C and all obligations and rights thereunder assumed by the successor or acquiring corporation. In the event of an extraordinary transaction, the Company or any successor entity will pay at the holder's option, exercisable at any time concurrently with or within 30 days after the consummation of the extraordinary transaction, an amount of cash equal to the value of the Pre-Funded Series C Warrants as determined in accordance with the Black Scholes option pricing model and the terms of the warrants.

A holder of a Pre-Funded Series C Warrant will not have the right to exercise any portion of the warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% of the number of shares of Common Stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Pre-Funded Series C Warrants; provided that at the election of a holder and notice to us such percentage ownership limitation may be increased or decreased to any other percentage, not to exceed 9.99%; provided that any increase will not be effective until the 61st day after such notice is delivered from the holder to the Company.

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The foregoing summaries of the Underwriting Agreement and the Warrants do not purport to be complete and are qualified in its entirety by reference to the full text of the Underwriting Agreement and forms of the Warrants, which are filed as Exhibits 1.1, 4.1, 4.2 and 4.3 hereto and are incorporated herein by reference.

### **Forward-Looking Statements**

Any statements made by the Company that are not historical facts contained in this Current Report on Form 8-K are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and are subject to various risks, uncertainties and other factors that could cause the Company's actual results, performance or achievements to differ materially from those expressed or implied by such forward-looking statements. These statements often include words such as "may," "will," "expect," "anticipate," "continue," "estimate," "project," "intend," "believe," "plan," "seek," "could," "can," "should" or similar expressions. These statements are based on assumptions that the Company has made in light of the Company's experience in the industry, as well as the Company's perceptions of historical trends, current conditions, expected future developments and other factors the Company believes are appropriate in these circumstances. Forward-looking statements include, but are not limited to, those relating to the Offering and the anticipated use of the net proceeds therefrom, and are subject to such risks as are identified in the Company's most recent Annual Report on Form 10-K and in any subsequent quarterly reports on Form 10-Q. These documents are available on request from the Company or at [www.sec.gov](http://www.sec.gov). The Company disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

### **Item 9.01 Financial Statements and Exhibits.**

<u>Exhibit Number</u>	<u>Description</u>
1.1	Underwriting Agreement, dated May 18, 2017, by and between Repros Therapeutics Inc. and Laidlaw & Company (UK) Ltd., as representative of the underwriter named in Schedule A thereto
4.1	Form of Series A Warrant
4.2	Form of Series B Warrant
4.3	Form of Pre-Funded Series C Warrant
5.1	Opinion of Morgan, Lewis & Bockius LLP regarding the validity of the Shares and the Warrants

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**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.

**REPROS THERAPEUTICS INC.**

By: /s/ Kathi Anderson  
Kathi Anderson  
Chief Financial Officer

Dated: May 22, 2017

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## EXHIBIT INDEX

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## REPROS THERAPEUTICS, INC.

2,744,125 Shares of Common Stock

Series A Warrants to Purchase 3,742,500 Shares of Common Stock

Series B Warrants to Purchase 2,495,000 Shares of Common Stock

Pre-Funded Series C Warrants to Purchase 2,245,875 Shares of Common Stock

## UNDERWRITING AGREEMENT

May 18, 2017

Laidlaw & Company (UK) Ltd.  
546 Fifth Avenue, 5<sup>th</sup> Floor  
New York, New York 10036

*As Representative of the Several Underwriters  
Named on Schedule I hereto*

Ladies and Gentlemen:

Repros Therapeutics, Inc., a Delaware corporation (the "Company"), proposes, subject to the terms and conditions stated herein, to issue and sell to the underwriters named in **Schedule I** hereto (the "Underwriters," or each, an "Underwriter"), for whom Laidlaw & Company (UK) Ltd. is acting as representative (the "Representative"), (i) an aggregate of 2,744,125 shares (the "Shares") of common stock, par value \$0.001 per share (the "Common Stock"), of the Company, (ii) five-year series A warrants to purchase an aggregate of 3,742,500 shares of Common Stock at an exercise price of \$0.84 per share (the "Series A Warrants," and the shares of Common Stock underlying the Series A Warrants, the "Series A Warrant Shares") (iii) two-year series B warrants to purchase up to an aggregate of 2,495,000 shares of Common Stock at an exercise price of \$0.92 per share (the "Series B Warrants," and collectively with the Series A Warrants, the "Accompanying Warrants") and the shares of Common Stock underlying the Series A Warrants, the "Series B Warrant Shares") and (iv) pre-funded series C warrants (the "Pre-Funded Warrants" and collectively with the Series A Warrants and the Series B Warrants, the "Warrants") to purchase an aggregate of 2,245,875 shares of Common Stock at a nominal exercise price of \$0.001 per share (the "Pre-Funded Warrant Shares" and collectively with the Series A Warrant Shares and the Series B Warrant Shares, the "Warrant Shares"). The Shares, the Warrants, and the Warrant Shares are collectively referred to as the "Securities." The Shares and the Warrants shall be immediately separable and transferable upon issuance. The terms of the Series A Warrants, the Series B Warrants and the Pre-Funded Warrants are set forth in the form of such warrants attached as Exhibit A, Exhibit B and Exhibit C hereto, respectively. Each Share is being sold together a Series A Warrant and a Series B Warrant. Each Pre-Funded Warrant to purchase one Warrant Share is being sold together with a Series A Warrant and a Series B Warrant.

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The Company and the several Underwriters hereby confirm their agreement as follows:

1. **Registration Statement and Prospectus** . The Company has prepared and filed with the Securities and Exchange Commission (the “Commission”) a registration statement on Form S-3 (File No. 333-197253) under the Securities Act of 1933, as amended (the “Securities Act”) and the rules and regulations (the “Rules and Regulations”) of the Commission thereunder, and such amendments to such registration statement (including post effective amendments) as may have been required to the date of this Agreement and a preliminary prospectus supplement or “red herring” pursuant to Rule 424(b) under the Securities Act. Such registration statement, as amended (including any post effective amendments), has been declared effective by the Commission. Such registration statement, including amendments thereto (including post effective amendments thereto) at the time of effectiveness thereof (the “Effective Time”), the exhibits and any schedules thereto at the Effective Time or thereafter during the period of effectiveness and the documents and information otherwise deemed to be a part thereof or included therein by the Securities Act or otherwise pursuant to the Rules and Regulations at the Effective Time or thereafter during the period of effectiveness, is herein called the “Registration Statement.” If the Company has filed or files an abbreviated registration statement pursuant to Rule 462(b) under the Securities Act (the “Rule 462 Registration Statement”), then any reference herein to the term Registration Statement shall include such Rule 462 Registration Statement.

The Company is filing with the Commission pursuant to Rule 424 under the Securities Act a final prospectus supplement relating to the Securities to a form of prospectus included in the Registration Statement. The form of prospectus included in the Registration Statement at the time it was declared effective, as it may have been amended, modified or supplemented and filed with the Commission after such effective date and prior to the date hereof pursuant to Rule 424(b) (3), is hereinafter called the “Base Prospectus,” and such final prospectus supplement, as filed, along with the Base Prospectus, is hereinafter called the “Final Prospectus.” Such Final Prospectus and any preliminary prospectus supplement or “red herring” relating to the Securities in the form in which they shall be filed with the Commission pursuant to Rule 424(b) under the Securities Act (including the Base Prospectus as so supplemented) is hereinafter called a “Prospectus.”

For purposes of this Agreement, all references to the Registration Statement, the Rule 462 Registration Statement, the Base Prospectus, the Final Prospectus, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Interactive Data Electronic Applications system. All references in this Agreement to amendments or supplements to the Registration Statement, the Rule 462 Registration Statement, the Base Prospectus, the Final Prospectus or the Prospectus shall be deemed to mean and include the subsequent filing of any document under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), that is deemed to be incorporated therein by reference therein or otherwise deemed by the Rules and Regulations to be a part thereof.

2. ***Representations and Warranties of the Company Regarding the Offering.***

(a) The Company represents and warrants to, and agrees with, the several Underwriters, as of the date hereof and as of the Closing Date (as defined in Section 4(c) below), except as otherwise indicated, as follows:

(i) At each time of effectiveness, at the date hereof and at the Closing Date, the Registration Statement and any post-effective amendment thereto complied or will comply in all material respects with the requirements of the Securities Act and the Rules and Regulations and did not, does not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. The Time of Sale Disclosure Package (as defined in Section 2(a)(iii)(A)(1) below) as of the date hereof, at the Closing Date, any roadshow or investor presentations delivered to and approved by the Representative for use in connection with the marketing of the offering of the Securities (the “Marketing Materials.”) as of the time of their use, at the Closing Date and the Prospectus, as amended or supplemented, as of its date, at the time of filing pursuant to Rule 424(b) under the Securities Act and at the Closing Date does not and will not contain any 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 the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the two immediately preceding sentences shall not apply to statements in or omissions from the Registration Statement, the Time of Sale Disclosure Package or any Prospectus in reliance upon, and in conformity with, written information furnished to the Company by any Underwriter specifically for use in the preparation thereof, which written information is described in Section 7(f). The Registration Statement contains all exhibits and schedules required to be filed by the Securities Act or the Rules and Regulations. No order preventing or suspending the effectiveness or use of the Registration Statement or any Prospectus is in effect and no proceedings for such purpose have been instituted or are pending, or, to the knowledge of the Company, are contemplated or threatened by the Commission.

(ii) The Company has not distributed any prospectus or other offering material in connection with the offering and sale of the Securities other than the Time of Sale Disclosure Package and the Marketing Materials.

(iii) (A) The Company has provided a copy to the Underwriters of each Issuer Free Writing Prospectus (as defined below) used in the sale of the Securities. The Company has filed all Issuer Free Writing Prospectuses required to be so filed with the Commission, and no order preventing or suspending the effectiveness or use of any Issuer Free Writing Prospectus is in effect and no proceedings for such purpose have been instituted or are pending, or, to the knowledge of the Company, are contemplated or threatened by the Commission. When taken together with the rest of the Time of Sale Disclosure Package or the Final Prospectus, since its first use and at all relevant times since then, no Issuer Free Writing Prospectus has, does or will include (1) any untrue statement of a material fact or omission to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, or (2) information that conflicted, conflicts or will conflict with the information contained in the Registration Statement or the Final Prospectus. The representations and warranties set forth in the immediately preceding sentence shall not apply to statements in or omissions from the Time of Sale Disclosure Package, the Final Prospectus or any Issuer Free Writing Prospectus in reliance upon, and in conformity with, written information furnished to the Company by any Underwriter specifically for use in the preparation thereof. As used in this paragraph and elsewhere in this Agreement:

(1) “Time of Sale Disclosure Package” means the Base Prospectus, the Prospectus most recently filed with the Commission before the time of this Agreement, including any preliminary prospectus supplement deemed to be a part thereof, each Issuer Free Writing Prospectus, and the description of the transaction provided by the Underwriters included on **Schedule II**.

(2) “Issuer Free Writing Prospectus” means any “issuer free writing prospectus,” as defined in Rule 433 under the Securities Act, relating to the Securities that (A) is required to be filed with the Commission by the Company, or (B) is exempt from filing pursuant to Rule 433(d)(5)(i) or (d)(8) under the Securities Act, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g) under the Securities Act.

(B) At the time of filing of the Registration Statement and at the date hereof, the Company was not and is not an “ineligible issuer,” as defined in Rule 405 under the Securities Act or an “excluded issuer” as defined in Rule 164 under the Securities Act. The Company meets the requirements for the use of Form S-3 under the Securities Act. The Company has filed in a timely manner all reports required to be filed pursuant to Sections 13(a), 13(e), 14 and 15(d) of the Exchange Act during the twelve (12) months preceding the date hereof.

(C) Each Issuer Free Writing Prospectus satisfied, as of its issue date and at all subsequent times through the Prospectus Delivery Period (as defined below in Section 4(a)(i)), all other conditions as may be applicable to its use as set forth in Rules 164 and 433 under the Securities Act, including any legend, record-keeping or other requirements.

(iv) The financial statements of the Company, together with the related notes, included or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Final Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act and fairly present the financial condition of the Company as of the dates indicated and the results of operations and changes in cash flows for the periods therein specified in conformity with U.S. generally accepted accounting principles consistently applied throughout the periods involved; and the supporting schedules included in the Registration Statement present fairly the information required to be stated therein. The pro forma and pro forma as adjusted financial information, if any, included or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Final Prospectus has been properly compiled and prepared in all material respects in accordance with the applicable requirements of the Securities Act and the Rules and Regulations. The assumptions used in preparing the pro forma and pro forma as adjusted financial information, if any, included or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Final Prospectus provide a reasonable basis for presenting the significant effects directly attributable to the transactions or events described therein. The related pro forma and pro forma as adjusted adjustments, if any, give appropriate effect to those assumptions; and the pro forma and pro forma as adjusted financial information reflect the proper application of those adjustments to the corresponding historical financial statement amounts. No other financial statements, pro forma financial information or schedules are required under the Securities Act to be included or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package or the Final Prospectus.

(v) To the Company's knowledge, PricewaterhouseCoopers LLP, which has expressed its opinion with respect to the financial statements and schedules incorporated by reference as a part of the Registration Statement and incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Final Prospectus, is an independent public accounting firm with respect to the Company within the meaning of the Securities Act and the Rules and Regulations.

(vi) The Company had a reasonable basis for, and made in good faith, each "forward-looking statement" (within the meaning of Section 27A of the Securities Act or Section 21E of the Exchange Act) contained or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package, the Final Prospectus or the Marketing Materials, in each case at the time such "forward-looking statement" was made.

(vii) All statistical or market-related data included or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package or the Final Prospectus, or included in the Marketing Materials, are based on or derived from sources that the Company reasonably believes to be reliable and accurate, and the Company has obtained the written consent to the use of such data from such sources, to the extent required.

(viii) The Common Stock is registered pursuant to Section 12(b) of the Exchange Act and is listed on the NASDAQ Capital Market. Except as set forth in the Time of Sale Disclosure Package, there is no action pending by the Company or, to the Company's knowledge, by the NASDAQ Capital Market to delist the Common Stock from the NASDAQ Capital Market, nor has the Company received any notification that the NASDAQ Capital Market is contemplating terminating such listing. The Company has submitted a Notification Form: Listing of Additional Shares with the NASDAQ Capital Market with respect to the Securities.

(ix) The Company has not taken, directly or indirectly, any action that is designed to or that has constituted or that would reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities.

(x) The Company is not and, after giving effect to the offering and sale of the Securities and the application of the net proceeds thereof, will not be an “investment company,” as such term is defined in the Investment Company Act of 1940, as amended.

(b) Any certificate signed by any officer of the Company and delivered to the Underwriters or to the Underwriters’ counsel shall be deemed a representation and warranty by the Company to the Underwriters as to the matters covered thereby.

**3. Representations and Warranties Regarding the Company.**

(a) The Company represents and warrants to and agrees with, the several Underwriters, as of the date hereof and as of the Closing Date (as defined in Section 4(c) below), except as set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, as follows:

(i) Each of the Company and its subsidiaries has been duly organized and is validly existing as a corporation or other entity in good standing under the laws of its jurisdiction of organization. Each of the Company and its subsidiaries has the power and authority (corporate or otherwise) to own its properties and conduct its business as currently being carried on and as described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, and is duly qualified to do business as a foreign corporation or other entity in good standing in each jurisdiction in which it owns or leases real property or in which the conduct of its business makes such qualification necessary and in which the failure to so qualify would have or is reasonably likely to result in a material adverse effect upon the business, prospects, properties, operations, condition (financial or otherwise) or results of operations of the Company and its subsidiaries, taken as a whole, or in its ability to perform its obligations under this Agreement (“Material Adverse Effect”). Except for those of the Company’s subsidiaries set forth on **Schedule III** attached hereto, none of the Company’s subsidiaries is a “significant subsidiary” (as such term is defined in Rule 1-02 of Regulation S-X promulgated under the Securities Act).

(ii) The Company has the power and authority to enter into this Agreement and to authorize, issue and sell the Securities as contemplated by this Agreement. This Agreement has been duly authorized, executed and delivered by the Company, and constitutes a valid, legal and binding obligation of the Company, enforceable against the Company in accordance with its terms, except as rights to indemnity hereunder may be limited by federal or state securities laws and except as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting the rights of creditors generally and subject to general principles of equity.

(iii) The execution, delivery and performance of this Agreement and the consummation of the transactions herein contemplated will not (A) result in a breach or violation of any of the terms and provisions of, or constitute a default under, any law, order, rule or regulation to which the Company or any subsidiary is subject, or by which any property or asset of the Company or any subsidiary is bound or affected, except to the extent such breach, violation or default is not reasonably likely to have a Material Adverse Effect, (B) conflict with, result in any violation or breach of, 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 right of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) (a “Default Acceleration Event”) of, any material agreement, lease, credit facility, debt, note, bond, mortgage, indenture or other instrument (the “Contracts”) or obligation 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, except to the extent that such conflict, default or Default Acceleration Event is not reasonably likely to result in a Material Adverse Effect, or (C) result in a breach or violation of any of the terms and provisions of, or constitute a default under, the Company’s Certificate of Incorporation, as amended, or by-laws, as amended.

(iv) Neither the Company nor any of its subsidiaries is in violation, breach or default under its Certificate of Incorporation, as amended, by-laws, as amended, or other equivalent organizational or governing documents, except in the case of a subsidiary of the Company where the violation, breach or default is not reasonably likely to result in a Material Adverse Effect.

(v) No consents, approvals, orders, authorizations or filings are required on the part of the Company and its subsidiaries in connection with the execution, delivery or performance of this Agreement and the issue and sale of the Securities, except (A) the registration under the Securities Act of the Securities, (B) such consents, approvals, authorizations, registrations or qualifications as may be required under state or foreign securities or Blue Sky laws and the rules of the Financial Industry Regulatory Authority, Inc. (“FINRA”) in connection with the purchase and distribution of the Securities by the several Underwriters, (C) the necessary filings and approvals from the NASDAQ Capital Market to list the Common Stock and the Warrant Shares and (D) such consents, approvals, orders, authorizations and filings the failure of which to make or obtain is not reasonably likely to result in a Material Adverse Effect.



(vi) The Company has an authorized capitalization as set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus. All of the issued and outstanding shares of capital stock of the Company are duly authorized and validly issued, fully paid and nonassessable, and have been issued in compliance with all applicable securities laws, and conform in all material respects to the description thereof in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus. All of the issued shares of capital stock of each subsidiary of the Company have been duly and validly authorized and issued, are fully paid and non-assessable and are owned directly or indirectly by the Company, free and clear of all liens, encumbrances, equities or claims. Except for the issuances of options or restricted stock in the ordinary course of business, since the respective dates as of which information is provided in the Registration Statement, the Time of Sale Disclosure Package or the Prospectus, the Company has not entered into or granted any convertible or exchangeable securities, options, warrants, agreements, contracts or other rights in existence to purchase or acquire from the Company any shares of the capital stock of the Company. The Shares, when issued, will be duly authorized and validly issued, fully paid and nonassessable, will be issued in compliance with all applicable securities laws, and will be free of preemptive, registration or similar rights and will conform to the description of the capital stock of the Company contained in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus. The Shares, when issued, will conform in all material respects to the descriptions thereof set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus. The Warrants have been duly authorized, and when executed and delivered by the Company, will constitute valid and binding obligations of the Company enforceable in accordance with their terms, except that such enforcement may be subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws, now or hereafter in effect, affecting creditors' rights generally. The Warrant Shares have been duly authorized and reserved for issuance pursuant to the terms of the Warrants, and when issued by the Company upon valid exercise of the Warrants and payment of the exercise price, will be duly and validly issued, fully paid and nonassessable and free of any preemptive or similar rights and will conform to the description thereof and contained in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus.

(vii) Each of the Company and its subsidiaries has (A) filed all returns (as hereinafter defined) required to be filed with taxing authorities prior to the date hereof or has duly obtained extensions of time for the filing thereof and (B) paid all taxes (as hereinafter defined) shown as due on such returns that were filed and has paid all taxes imposed on or assessed against the Company or such respective subsidiary, except, in all cases, for any such amounts that the Company or any subsidiary is contesting in good faith and except in any case in which the failure to so file or pay would not reasonably be expected to have a Material Adverse Effect. The provisions for taxes payable, if any, shown on the financial statements filed with or as part of the Registration Statement are sufficient for all accrued and unpaid taxes, whether or not disputed, and for all periods to and including the dates of such consolidated financial statements. No issues have been raised and are currently pending by any taxing authority in connection with any of the returns or taxes asserted as due from the Company or its subsidiaries, and no waivers of statutes of limitation with respect to the returns or collection of taxes have been given by or requested from the Company or its subsidiaries. The term “taxes” mean all federal, state, local, foreign, and other net income, gross income, gross receipts, sales, use, ad valorem, transfer, franchise, profits, license, lease, service, service use, withholding, payroll, employment, excise, severance, stamp, occupation, premium, property, windfall profits, customs, duties or other taxes, fees, assessments, or charges of any kind whatever, together with any interest and any penalties, additions to tax, or additional amounts with respect thereto. The term “returns” means all returns, declarations, reports, statements, and other documents required to be filed in respect to taxes.

(viii) Since the respective dates as of which information is given (including by incorporation by reference) in the Registration Statement, the Time of Sale Disclosure Package or the Prospectus, (a) neither the Company nor any of its subsidiaries has incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions other than in the ordinary course of business, (b) the Company has not declared or paid any dividends or made any distribution of any kind with respect to its capital stock, (c) there has not been any change in the capital stock of the Company or any of its subsidiaries (other than a change in the number of outstanding shares of Common Stock due to the issuance of shares upon the exercise of outstanding options or warrants or the issuance of restricted stock awards or restricted stock units under the Company's existing stock awards plan, or any new grants thereof in the ordinary course of business), (d) there has not been any material change in the Company's long-term or short-term debt, and (e) there has not been the occurrence of any Material Adverse Effect.

(ix) There is not pending or, to the knowledge of the Company, threatened, any action, suit or proceeding to which the Company or any of its subsidiaries is a party or of which any property or assets of the Company or any of its subsidiaries is the subject before or by any court or governmental agency, authority or body, or any arbitrator or mediator, which is reasonably likely to result in a Material Adverse Effect or adversely affect the consummation of the transactions contemplated by this Agreement.

(x) The Company and each of its subsidiaries holds, and is in compliance with, all franchises, grants, authorizations, licenses, permits, easements, consents, certificates and orders ("Permits") of any governmental or self-regulatory agency, authority or body required for the conduct of its business, and all such Permits are in full force and effect, in each case except where the failure to hold, or comply with, any of them is not reasonably likely to result in a Material Adverse Effect.

(xi) The Company and its subsidiaries have good and marketable title to all property (whether real or personal) described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus as being owned by them that is material to the business of the Company, in each case free and clear of all liens, claims, security interests, other encumbrances or defects, except those that are not reasonably likely to result in a Material Adverse Effect. The property held under lease by the Company and its subsidiaries is held by them under valid, subsisting and enforceable leases with only such exceptions with respect to any particular lease as do not interfere in any material respect with the conduct of the business of the Company and its subsidiaries.

(xii) The Company and each of its subsidiaries owns or possesses or has valid right to use all patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, copyrights, licenses, inventions, trade secrets and similar rights ("Intellectual Property") necessary for the conduct of the business of the Company and its subsidiaries as currently carried on and as described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus. To the knowledge of the Company, no action or use by the Company or any of its subsidiaries will involve or give rise to any infringement of, or license or similar fees for, any Intellectual Property of others, except where such action, use, license or fee is not reasonably likely to result in a Material Adverse Effect. Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, neither the Company nor any of its subsidiaries has received any notice alleging any such infringement or fee.

(xiii) The Company and each of its subsidiaries has complied with, is not in violation of, and has not received any notice of violation relating to any law, rule or regulation relating to the conduct of its business, or the ownership or operation of its property and assets, including, without limitation, (A) the Currency and Foreign Transactions Reporting Act of 1970, as amended, or any money laundering laws, rules or regulations, (B) any laws, rules or regulations related to health, safety or the environment, including those relating to the regulation of hazardous substances, (C) the Sarbanes-Oxley Act and the rules and regulations of the Commission thereunder, (D) the Foreign Corrupt Practices Act of 1977 and the rules and regulations thereunder, and (E) the Employment Retirement Income Security Act of 1974 and the rules and regulations thereunder, in each case except where the failure to be in compliance is not reasonably likely to result in a Material Adverse Effect.

(xiv) Neither the Company nor any of its subsidiaries nor, to the knowledge of the Company, any director, officer, employee, representative, agent or affiliate of the Company or any of its subsidiaries is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department (“OFAC”); and the Company will not directly or indirectly use the proceeds of the offering of the Securities contemplated hereby, or lend, contribute or otherwise make available such proceeds to any person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

(xv) The Company and each of its subsidiaries carries, or is covered by, insurance in such amounts and covering such risks as, in the Company’s reasonable judgment, is adequate for the conduct of its business and the value of its properties and as is customary for similarly sized companies engaged in similar businesses in similar industries.

(xvi) No labor dispute with the employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is imminent, that is reasonably likely to result in a Material Adverse Effect.

(xvii) Except as set forth or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, neither the Company, its subsidiaries nor, to its knowledge, any other party is in violation, breach or default of any Contract that is reasonably likely to result in a Material Adverse Effect.

(xviii) No supplier, customer, distributor or sales agent of the Company has notified the Company that it intends to discontinue or decrease the rate of business done with the Company, except where such decrease is not reasonably likely to result in a Material Adverse Effect.

(xix) There are no claims, payments, issuances, arrangements or understandings for services in the nature of a finder’s, consulting or origination fee with respect to the introduction of the Company to any Underwriter or the sale of the Securities hereunder or any other arrangements, agreements, understandings, payments or issuances with respect to the Company that may affect the Underwriters’ compensation, as determined by FINRA.

(xx) Except as set forth or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, the Company has not made any direct or indirect payments (in cash, securities or otherwise) to (i) any person, as a finder's fee, investing fee or otherwise, in consideration of such person raising capital for the Company or introducing to the Company persons who provided capital to the Company, (ii) any FINRA member, or (iii) any person or entity that has any direct or indirect affiliation or association with any FINRA member within the 12-month period prior to the date on which the Registration Statement was filed with the Commission (" Filing Date ") or thereafter.

(xxi) None of the net proceeds of the offering will be paid by the Company to any participating FINRA member or any affiliate or associate of any participating FINRA member, except as specifically authorized herein.

(xxii) Except as set forth or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, to the Company's knowledge, no (i) officer or director of the Company or its subsidiaries, (ii) owner of 5% or more of the Company's unregistered securities or that of its subsidiaries or (iii) owner of any amount of the Company's unregistered securities acquired within the 180-day period prior to the Filing Date, has any direct or indirect affiliation or association with any FINRA member. The Company will advise the Underwriters and their counsel if it becomes aware that any officer, director or stockholder of the Company or its subsidiaries is or becomes an affiliate or associated person of a FINRA member participating in the offering.

(xxiii) Other than the Underwriters, no person has the right to act as an underwriter or as a financial advisor to the Company in connection with the transactions contemplated hereby.

(xxiv) The statements set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus under the caption "Description of Capital Stock" insofar as they purport to constitute a summary of the terms of the Securities, are accurate, complete and fair.

(xxv) Except as set forth or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, there are no contracts, agreements or understandings between the Company and any person granting such person the right (other than rights which have been waived in writing or otherwise satisfied) to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company owned or to be owned by such person or to require the Company to include such securities in the securities registered pursuant to the Registration Statement or in any securities being registered pursuant to any other registration statement filed by the Company under the Securities Act.

(xxvi) Except as set forth or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, the Company has not sold or issued any shares of Common Stock during the six-month period preceding the date of the Prospectus, including any sales pursuant to Rule 144A under, or Regulations D or S of, the Securities Act, other than shares issued pursuant to employee benefit plans, stock option plans or other employee compensation plans or pursuant to outstanding options, rights or warrants.

(xxvii) The Company and each of its subsidiaries (i) are in compliance with all, and have not violated any, laws, regulations, ordinances, rules, orders, judgments, decrees, permits or other legal requirements of any governmental authority, including without limitation any international, national, state, provincial, regional, or local authority, relating to the protection of human health or safety, the environment, or natural resources, or to hazardous or toxic substances or wastes, pollutants or contaminants (including, without limitation, all health and safety laws) (“Environmental Laws”) applicable to such entity, which compliance includes, without limitation, obtaining, maintaining and complying with all permits and authorizations and approvals required by Environmental Laws to conduct their respective businesses as described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, except where the failure to comply would not, singularly or in the aggregate, have a Material Adverse Effect, and (ii) have not received notice of any actual or alleged violation of Environmental Laws, or of any potential liability for or other obligation concerning the presence, disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants.

- (A) There are no proceedings that are pending, or known to be contemplated, against the Company or any of its subsidiaries under Environmental Laws in which a governmental authority is also a party.
- (B) The Company and its subsidiaries are not aware of any existing liabilities concerning hazardous or toxic substances or wastes, pollutants or contaminants that could reasonably be expected to have a Material Adverse Effect on the capital expenditures, earnings or competitive position of the Company and its subsidiaries.
- (C) To the knowledge of the Company, no property which is or has been owned, leased, used, operated or occupied by the Company or its subsidiaries has been designated as a Superfund site pursuant to the Comprehensive Environmental Response, Compensation of Liability Act of 1980, as amended (42 U.S.C. Section 9601, et. seq.), or otherwise designated as a contaminated site under applicable state or local law.

(xxviii) The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that complies in all material respects with the requirements of the Exchange Act and has been designed by the Company's principal executive officer and principal financial officer, or under their supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. The Company's internal control over financial reporting is effective and the Company is not aware of any material weaknesses in its internal control over financial reporting.

(xxix) Since the date of the latest audited financial statements included or incorporated by reference in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, there has been no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(xxx) The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) that comply with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that material information relating to the Company and its subsidiaries is made known to the Company's principal executive officer and principal financial officer by others within those entities; and such disclosure controls and procedures are effective.

(xxxii) The operations of the Company and its subsidiaries are being conducted in material compliance with applicable employment laws, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the "Employee Benefit 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 of its subsidiaries with respect to the Employee Benefit Laws is pending or, to the knowledge of the Company, threatened.

(xxxiii) Neither the Company nor any of its subsidiaries or affiliates, nor any director, officer, or employee, nor, to the Company's knowledge, any agent or representative of the Company or of any of its subsidiaries or affiliates, has taken any action in furtherance of an offer, payment, promise to pay, or authorization or approval of the payment or giving of money, property, gifts or anything else of value, directly or indirectly, to any "government official" (including any officer or employee of a government or government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office) to influence official action or secure an improper advantage; and the Company and its subsidiaries and affiliates conduct their businesses in compliance in all material respects with applicable anti-corruption laws and have instituted and maintain and will continue to maintain policies and procedures designed to promote and achieve compliance in all material respects with such laws and with the representation and warranty contained herein.

**4. Purchase, Sale and Delivery of Securities.**

(a) On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company agrees to issue and sell the Shares and the Warrants to the several Underwriters, and the Underwriters agree, severally and not jointly, to purchase the respective numbers of Shares and Warrants set forth opposite the names of the Underwriters in **Schedule I** hereto. The purchase price per Share and/or Pre-Funded Warrant and Accompanying Warrants to be paid by the Underwriters to the Company for the Shares will be \$0.60 per share (which in the case of the Pre-Funded Warrants, shall mean per share issuable upon exercise of such warrant) (the "Purchase Price").

(b) (i) The Shares will be delivered by the Company to the Underwriters, for their respective accounts, against payment of the purchase price therefor by wire transfer of same day funds payable to the order of the Company at the offices of Laidlaw & Company (UK) Ltd., 546 Fifth Avenue, 5<sup>th</sup> Floor, New York, New York 10036, or such other location as may be mutually acceptable, at 10:00 a.m. Eastern time, (ii) the Accompanying Warrants and Pre-Funded Warrants in physical, certificated form, in each case on the third (or if the Securities are priced, as contemplated by Rule 15c6-1(c) under the Exchange Act, after 4:30 p.m. Eastern time, the fourth) full business day following the date hereof, or at such other time and date as the Representative and the Company determine pursuant to Rule 15c6-1(a) under the Exchange Act, and (iii) the time and date of delivery of the Shares and/or Pre-Funded Warrants and the Accompanying Warrants is referred to herein as the "Closing Date." On the Closing Date the Company shall deliver (i) the Shares which shall be registered in the name or names and shall be in such denominations as the Representative may request at least one (1) business day before the Closing Date, to the respective accounts of the several Underwriters, which delivery shall be made through the facilities of the Depository Trust Company's DWAC system and/or (ii) the Accompanying Warrants and Pre-Funded Warrants in physical, certificated form, in each such case, issued in such names and in such denominations as the Underwriters may direct by notice in writing to the Company given at or prior to 5:00 p.m., New York time, on first (1<sup>st</sup>) business day preceding the Closing .

(c) Intentionally Omitted.

**5. Covenants.**

(a) The Company covenants and agrees with the several Underwriters as follows:

(i) To prepare the Prospectus in a form approved by the Representative and to file such Prospectus pursuant to Rule 424(b) under the Securities Act not later than the Commission's close of business on the second business day following the execution and delivery of this Agreement, or, if applicable, such earlier time as may be required by Rule 430A(a)(3) under the Securities Act.

(ii) During the period beginning on the date hereof and ending on the date that the Prospectus is no longer required by law to be delivered in connection with sales by an underwriter or dealer (the “Prospectus Delivery Period”), prior to amending or supplementing the Registration Statement, including any Rule 462 Registration Statement, the Time of Sale Disclosure Package or the Prospectus, the Company shall furnish to the Underwriters for review and comment a copy of each such proposed amendment or supplement, and the Company shall not file any such proposed amendment or supplement to which any Underwriter reasonably objects.

(iii) From the date of this Agreement until the end of the Prospectus Delivery Period, the Company shall promptly advise the Underwriters in writing (A) of the receipt of any comments of, or requests for additional or supplemental information from, the Commission, (B) of the time and date of any filing of any post-effective amendment to the Registration Statement or any amendment or supplement to the Time of Sale Disclosure Package, the Prospectus or any Issuer Free Writing Prospectus, (C) of the time and date that any post-effective amendment to the Registration Statement becomes effective and (D) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or of any order preventing or suspending its use or the use of the Time of Sale Disclosure Package or any Issuer Free Writing Prospectus, or of any proceedings to remove, suspend or terminate from listing or quotation the Common Stock from any securities exchange upon which it is listed for trading or included or designated for quotation, or of the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time during the Prospectus Delivery Period, the Company will use its reasonable efforts to obtain the lifting of such order at the earliest possible moment. Additionally, the Company agrees that it shall comply with the provisions of Rules 424(b), 430A and 430B, as applicable, under the Securities Act and will use its reasonable efforts to confirm that any filings made by the Company under Rule 424(b) or Rule 433 were received in a timely manner by the Commission (without reliance on Rule 424(b)(8) or 164(b) of the Securities Act).

(iv) (A) During the Prospectus Delivery Period, the Company will comply with all requirements imposed upon it by the Securities Act, as now and hereafter amended, and by the Rules and Regulations, as from time to time in force, and by the Exchange Act, as now and hereafter amended, so far as necessary to permit the continuance of sales of or dealings in the Securities as contemplated by the provisions hereof, the Time of Sale Disclosure Package, the Registration Statement and the Prospectus. If during such period any event occurs as the result of which the Prospectus (or if the Prospectus is not yet available to prospective purchasers, the Time of Sale Disclosure Package) would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which such statement was made, not misleading, or if during such period it is necessary or appropriate in the opinion of the Company or its counsel or the Underwriters or their counsel to amend the Registration Statement or supplement the Prospectus (or if the Prospectus is not yet available to prospective purchasers, the Time of Sale Disclosure Package) to comply with the Securities Act, the Company will promptly notify the Underwriters, allow the Representative the opportunity to provide reasonable comments on such amendment, prospectus supplement or document, and will amend the Registration Statement or supplement the Prospectus (or if the Prospectus is not yet available to prospective purchasers, the Time of Sale Disclosure Package) so as to correct such statement or omission or effect such compliance.



(B) If during the Prospectus Delivery Period there occurred or occurs an event or development the result of which is that such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement or any Prospectus or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at that subsequent time, not misleading, the Company has promptly notified or promptly will notify the Underwriters and has promptly amended or will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(v) The Company shall take or cause to be taken all necessary action to qualify the Securities for sale under the securities laws of such jurisdictions as the Underwriters reasonably designate and to continue such qualifications in effect so long as required for the distribution of the Securities, except that the Company shall not be required in connection therewith to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified, to execute a general consent to service of process in any state or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise subject.

(vi) The Company will furnish to the Underwriters and counsel for the Underwriters copies of the Registration Statement, each Prospectus, any Issuer Free Writing Prospectus, and all amendments and supplements to such documents, in each case as soon as available and in such quantities as the Underwriters may from time to time reasonably request.

(vii) The Company will make generally available to its security holders as soon as practicable, but in any event not later than 15 months after the end of the Company's current fiscal quarter, an earnings statement (which need not be audited) covering a 12-month period that shall satisfy the provisions of Section 11(a) of the Securities Act and Rule 158 of the Rules and Regulations.

(viii) The Company will be responsible for and pay all expenses relating to the transaction, including, without limitation, (a) all actual filing fees relating to the registration of the Securities to be sold in the Offering with the Commission; (b) all actual FINRA filing fees associated with the review of the Offering by FINRA; (c) all actual fees and expenses relating to the listing of such Securities on the NASDAQ Stock Market; (d) all actual fees, expenses and disbursements relating to background checks of the Company's officers and directors; (e) all fees, expenses and disbursements relating to the registration or qualification of such Securities under the "blue sky" securities laws of such states and other jurisdictions as Laidlaw may reasonably designate (including, without limitation, all filing and registration fees); (f) all actual fees, expenses and disbursements relating to the registration, qualification or exemption of such Securities under the securities laws of such foreign jurisdictions as Laidlaw may reasonably deem necessary to comply with applicable law; (g) the costs of all mailing and printing of the underwriting documents (including, without limitation, this Agreement, any Blue Sky Surveys and, if appropriate, any Agreement Among Underwriters, Selected Dealers' Agreement, Underwriters' Questionnaire and Power of Attorney), the Registration Statement, Prospectus and all amendments, supplements and exhibits thereto and as many preliminary and final Prospectuses as Laidlaw may reasonably deem necessary; (h) the costs of preparing, printing and delivering certificates representing the Securities; (i) fees and expenses of the transfer agent for the Common Stock; (j) stock transfer and/or stamp taxes, if any, payable upon the transfer of securities from the Company to the Representative; (k) the fees and expenses of the Company's accountants; (l) the legal fees and expenses and fees and expenses of any other agents and representatives of the Company incurred as a result of the transaction; and (m) all fees and expenses of the Representative, including, without limitation, its legal fees and expenses, all such fees and expenses listed in clauses (a) through (m) not to exceed \$70,000 in the aggregate. If this Agreement is terminated, regardless of which party elects to terminate this Agreement, the Company agrees to reimburse the Representative for, or otherwise pay and bear, the expenses and fees to be paid and borne by the Company as provided for above and to reimburse the Representative for the full amount of its actual accountable and documented expenses incurred to such date up to a maximum of \$50,000 (provided, however, that such expense cap in no way limits or impairs the indemnification and contribution provisions of this Agreement) for all such expenses (which expenses will include, but will not be limited to, all reasonable fees and disbursements of the Underwriters' counsel, travel, lodging and other "road show" expenses, mailing, printing and reproduction expenses, and any expenses incurred by the Representative in conducting its due diligence, including background checks of the Company's officers and directors), less amounts, if any, previously paid to Laidlaw in reimbursement for such expenses.

(ix) The Company intends to apply the net proceeds from the sale of the Securities to be sold by it hereunder for the purposes set forth in the Time of Sale Disclosure Package and in the Final Prospectus.

(x) The Company has not taken and will not take, directly or indirectly, during the Prospectus Delivery Period, any action designed to or which might reasonably be expected to cause or result in, or that has constituted, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares and the Warrants.

(xi) The Company represents and agrees that, unless it obtains the prior written consent of the Underwriters, and each Underwriter, severally and not jointly, represents and agrees that, unless it obtains the prior written consent of the Company, it has not made and will not make any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus; provided that the prior written consent of the parties hereto shall be deemed to have been given in respect of the free writing prospectuses included in **Schedule IV**. Any such free writing prospectus consented to by the Company and the Underwriters is hereinafter referred to as a "Permitted Free Writing Prospectus." The Company represents that it has treated or agrees that it will treat each Permitted Free Writing Prospectus as an "issuer free writing prospectus," as defined in Rule 433, and has complied or will comply with the requirements of Rule 433 applicable to any Permitted Free Writing Prospectus, including timely Commission filing where required, legending and record-keeping.

(xii) The Company hereby agrees that, without the prior written consent of the Representative, it will not, during the period ending ninety (90) days after the date hereof ("Lock-Up Period"), (i) offer, pledge, issue, sell, contract to sell, purchase, contract to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock; or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Common Stock, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise; or (iii) file any registration statement with the Commission relating to the offering of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock (other than (A) a registration statement on Form S-4 and Form S-8). The restrictions contained in the preceding sentence shall not apply to (1) the Securities to be sold hereunder, (2) the issuance of Common Stock upon the exercise of options, warrants or other exchange rights as disclosed as outstanding in the Registration Statement (excluding exhibits thereto), the Time of Sale Disclosure Package or the Prospectus, or (3) the issuance of employee stock options not exercisable during the Lock-Up Period and the grant of restricted stock awards or restricted stock units pursuant to equity incentive plans described in the Registration Statement (excluding exhibits thereto), the Time of Sale Disclosure Package and the Prospectus.

(xiii) To engage and maintain, at its expense, a registrar and transfer agent for the Common Stock.

(xiv) To use its best efforts to list and to maintain the listing of the Common Stock and the Warrant Shares on the Exchange on the NASDAQ Capital Market.

(xv) To reserve and keep available at all times a sufficient number of shares of Common Stock for the purpose of enabling the Company to issue the Warrant Shares.

(xvi) To not take, directly or indirectly, any action designed to cause or result in, or that has constituted or might reasonably be expected to constitute, under the Exchange Act or otherwise, the stabilization or manipulation of the price of any securities of the Company to facilitate the sale or resale of the Securities.

(xvii) To use its reasonable best efforts to do and perform all things required to be done or performed under this Agreement by the Company prior to each Closing Date and to satisfy all conditions precedent to the delivery of the Shares and the Warrants.

**6. Conditions of the Underwriters' Obligations.** The respective obligations of the several Underwriters hereunder to purchase the Securities are subject to the accuracy, as of the date hereof, at the Closing Date (as if made on the Closing Date), of and compliance in all material respects with all representations, warranties and agreements of the Company contained herein, the performance by the Company of its obligations hereunder and the following additional conditions:

(a) If filing of the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, is required under the Securities Act or the Rules and Regulations, the Company shall have filed the Prospectus (or such amendment or supplement) or such Issuer Free Writing Prospectus with the Commission in the manner and within the time period so required (without reliance on Rule 424(b)(8) or 164(b) under the Securities Act); the Registration Statement shall remain effective; no stop order suspending the effectiveness of the Registration Statement or any part thereof, any Rule 462 Registration Statement, or any amendment thereof, nor suspending or preventing the use of the Time of Sale Disclosure Package, the Prospectus or any Issuer Free Writing Prospectus shall have been issued; no proceedings for the issuance of such an order shall have been initiated or threatened; any request of the Commission or an Underwriter for additional information (to be included in the Registration Statement, the Time of Sale Disclosure Package, the Prospectus, any Issuer Free Writing Prospectus or otherwise) shall have been complied with to the Underwriters' satisfaction.

(b) The Common Stock and Warrant Shares shall be qualified for listing on the NASDAQ Capital Market.

(c) FINRA shall have raised no objection to the fairness and reasonableness of the underwriting terms and arrangements.

(d) None of the Underwriters shall have reasonably determined, and advised the Company, that the Registration Statement, the Time of Sale Disclosure Package or the Prospectus, or any amendment thereof or supplement thereto, or any Issuer Free Writing Prospectus, contains an untrue statement of fact which, in such Underwriter's reasonable opinion is material, or omits to state a fact which, in such Underwriter's reasonable opinion, is material and is required to be stated therein or necessary to make the statements therein not misleading.

(e) On the Closing Date, there shall have been furnished to the Underwriters the opinion and negative assurance letter of Morgan, Lewis & Bockius LLP, corporate counsel for the Company, dated the Closing Date, and addressed to the Representative, in form and substance reasonably satisfactory to the Representative.

(g) On the Closing Date, there shall have been furnished to the Underwriters the negative assurance letter of Sheppard, Mullin, Richter & Hampton, LLP, counsel to the Underwriters, dated the Closing Date, and addressed to the Representative, in form and substance reasonably satisfactory to the Representative.

(h) The Underwriters shall have received a letter of PriceWaterhouseCoopers LLP on the date hereof and on the Closing Date, addressed to the Representative, as representative of the Underwriters, confirming that they are independent public accountants within the meaning of the Securities Act and are in compliance with the applicable requirements relating to the qualifications of accountants under Rule 2-01 of Regulation S-X of the Commission, and confirming, as of the date of each such letter (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the Time of Sale Disclosure Package, as of a date not prior to the date hereof or more than five days prior to the date of such letter), the conclusions and findings of said firm with respect to the financial information and other matters required by the Underwriters.

(j) On the Closing Date, there shall have been furnished to the Underwriters a certificate, dated the Closing Date, and addressed to the Representative, signed by the chief executive officer and the chief financial officer of the Company, in their capacity as officers of the Company, to the effect that:

(i) The representations and warranties of the Company in this Agreement that are qualified by materiality or by reference to any Material Adverse Effect are true and correct in all respects, and all other representations and warranties of the Company in this Agreement are true and correct, in all material respects, as if made at and as of the Closing Date, and the Company has complied with all the agreements and satisfied all the conditions on its part to be performed or satisfied at or prior to the Closing Date,;

(ii) No stop order or other order (A) suspending the effectiveness of the Registration Statement or any part thereof or any amendment thereof, (B) suspending the qualification of the Securities for offering or sale, or (C) suspending or preventing the use of the Time of Sale Disclosure Package, the Prospectus or any Issuer Free Writing Prospectus, has been issued, and no proceeding for that purpose has been instituted or, to their knowledge, is contemplated by the Commission or any state or regulatory body; and

(iii) There has been no occurrence of any event resulting or reasonably likely to result in a Material Adverse Effect during the period from and after the date of this Agreement and prior to the Closing Date.

(k) On or before the date hereof, the Underwriters shall have received duly executed "lock-up" agreements, in the form set forth on **Schedule V**, among the Representative and each of the parties specified in **Schedule VI**.

(l) The Company shall have furnished to the Underwriters and their counsel such additional documents, certificates and evidence as the Underwriters or their counsel may have reasonably requested.

If any condition specified in this Section 6 shall not have been fulfilled when and as required to be fulfilled, this Agreement may be terminated by any Underwriter by notice to the Company at any time at or prior to the Closing Date and such termination shall be without liability of any party to any other party, except that Section 5(a)(viii), Section 7 and Section 8 shall survive any such termination and remain in full force and effect.

7. ***Indemnification and Contribution*** .

(a) The Company agrees to indemnify, defend and hold harmless each Underwriter, its affiliates, directors and officers and employees, and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, from and against any losses, claims, damages or liabilities to which such Underwriter or such person may become subject, under the Securities Act or otherwise (including in settlement of any litigation if such settlement is effected with the written consent of the Company), insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, including the information deemed to be a part of the Registration Statement at the time of effectiveness and at any subsequent time pursuant to Rules 430A and 430B of the Rules and Regulations, or arise out of or are based upon the omission from the Registration Statement, or alleged omission to state therein, a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) an untrue statement or alleged untrue statement of a material fact contained in the Time of Sale Disclosure Package, the Prospectus, or any amendment or supplement thereto (including any documents filed under the Exchange Act and deemed to be incorporated by reference into the Registration Statement or the Prospectus), any Issuer Free Writing Prospectus or the Marketing Materials or in any other materials used in connection with the offering of the Securities, or arise out of or are based upon the omission or alleged omission to state therein 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, or (iii) in whole or in part, any failure of the Company to perform its obligations hereunder or under law, and will reimburse each Underwriter for any legal or other expenses reasonably incurred by it in connection with evaluating, investigating or defending against such loss, claim, damage, liability or action; *provided, however*, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage, liability or action arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in the Registration Statement, the Time of Sale Disclosure Package, the Prospectus, or any amendment or supplement thereto or any Issuer Free Writing Prospectus, in reliance upon and in conformity with written information furnished to the Company by such Underwriter specifically for use in the preparation thereof, which written information is described in Section 7(f).

(b) Each Underwriter, severally and not jointly, will indemnify, defend and hold harmless the Company, its affiliates, directors, officers and employees, and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, from and against any losses, claims, damages or liabilities to which the Company may become subject, under the Securities Act or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of such Underwriter), insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Time of Sale Disclosure Package, the Prospectus, or any amendment or supplement thereto or any Issuer Free Writing Prospectus, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, the Time of Sale Disclosure Package, the Prospectus, or any amendment or supplement thereto or any Issuer Free Writing Prospectus in reliance upon and in conformity with written information furnished to the Company by such Underwriter specifically for use in the preparation thereof, which written information is described in Section 7(f), and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with defending against any such loss, claim, damage, liability or action.

(c) Promptly after receipt by an indemnified party under subsection (a) or (b) above of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, notify the indemnifying party in writing of the commencement thereof; but the failure to notify the indemnifying party shall not relieve the indemnifying party from any liability that it may have to any indemnified party except to the extent such indemnifying party has been materially prejudiced by such failure. In case any such action shall be brought against any indemnified party, and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate in, and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel satisfactory to such indemnified party, and after notice from the indemnifying party to such indemnified party of the indemnifying party's election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party under such subsection for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof; *provided, however*, that if (i) the indemnified party has reasonably concluded (based on advice of counsel) that there may be legal defenses available to it or other indemnified parties that are different from or in addition to those available to the indemnifying party, (ii) a conflict or potential conflict exists (based on advice of counsel to the indemnified party) between the indemnified party and the indemnifying party (in which case the indemnifying party will not have the right to direct the defense of such action on behalf of the indemnified party), or (iii) the indemnifying party has not in fact employed counsel reasonably satisfactory to the indemnified party to assume the defense of such action within a reasonable time after receiving notice of the commencement of the action, the indemnified party shall have the right to employ a single counsel to represent it in any claim in respect of which indemnity may be sought under subsection (a) or (b) of this Section 7, in which event the reasonable fees and expenses of such separate counsel shall be borne by the indemnifying party or parties and reimbursed to the indemnified party as incurred.

The indemnifying party under this Section 7 shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party against any loss, claim, damage, liability or expense by reason of such settlement or judgment. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or consent to the entry of judgment in any pending or threatened action, suit or proceeding in respect of which any indemnified party is a party or could be named and indemnity was or would be sought hereunder by such indemnified party, unless such settlement, compromise or consent (a) includes an unconditional release of such indemnified party from all liability for claims that are the subject matter of such action, suit or proceeding and (b) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) If the indemnification provided for in this Section 7 is unavailable or insufficient to hold harmless an indemnified party under subsection (a) or (b) above, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of the losses, claims, damages or liabilities referred to in subsection (a) or (b) above, (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering and sale of the Securities or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions that resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Final Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriters and the parties' relevant intent, knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. The Company and each Underwriter agree that it would not be just and equitable if contributions pursuant to this subsection (d) were to be determined by pro rata allocation or by any other method of allocation that does not take account of the equitable considerations referred to in the first sentence of this subsection (d). The amount paid by an indemnified party as a result of the losses, claims, damages or liabilities referred to in the first sentence of this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending against any action or claim that is the subject of this subsection (d). Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount of such Underwriter's commissions referenced in Section 4(a) actually received by such Underwriter pursuant to this Agreement. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute as provided in this Section 7 are several in proportion to their respective underwriting obligations and not joint.

(e) The obligations of the Company under this Section 7 shall be in addition to any liability that the Company may otherwise have and the benefits of such obligations shall extend, upon the same terms and conditions, to each person, if any, who controls any Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act; and the several obligations of each Underwriter under this Section 7 shall be in addition to any liability that such Underwriter may otherwise have and the benefits of such obligations shall extend, upon the same terms and conditions, to the Company, and its officers, directors and each person who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act.

(f) For purposes of this Agreement, each Underwriter severally confirms, and the Company acknowledges, that there is no information concerning such Underwriter furnished in writing to the Company by such Underwriter specifically for preparation of or inclusion in the Registration Statement, the Time of Sale Disclosure Package, the Prospectus or any Issuer Free Writing Prospectus, other than the statements set forth in the last paragraph on the cover page of the Prospectus and the statements set forth in the "Underwriting" section of the Prospectus and Time of Sale Disclosure Package, only insofar as such statements relate to the amount of selling concession and re-allowance and related activities that may be undertaken by such Underwriter.

**8. Representations and Agreements to Survive Delivery.** All representations, warranties, and agreements of the Company herein or in certificates delivered pursuant hereto, including, but not limited to, the agreements of the several Underwriters and the Company contained in Section 5(a)(viii) and Section 7 hereof, shall remain operative and in full force and effect regardless of any investigation made by or on behalf of the several Underwriters or any controlling person thereof, or the Company or any of its officers, directors, or controlling persons, and shall survive delivery of, and payment for, the Securities to and by the Underwriters hereunder.



**9. Termination of this Agreement .**

(a) The Representative shall have the right to terminate this Agreement by giving notice to the Company as hereinafter specified at any time at or prior to the Closing Date, if in the discretion of the Representative, (i) there has occurred any material adverse change in the securities markets or any event, act or occurrence that has materially disrupted, or in the opinion of the Representative, will in the future materially disrupt, the securities markets or there shall be such a material adverse change in general financial, political or economic conditions or the effect of international conditions on the financial markets in the United States is such as to make it, in the judgment of the Representative, inadvisable or impracticable to market the Securities or enforce contracts for the sale of the Securities, (ii) trading in the Company's Common Stock shall have been suspended by the Commission, the NASDAQ Capital Market or trading in securities generally on the NASDAQ Global Market, the New York Stock Exchange or the NYSE MKT shall have been suspended, (iii) minimum or maximum prices for trading shall have been fixed, or maximum ranges for prices for securities shall have been required, on the NASDAQ Global Market, the New York Stock Exchange, or the NYSE MKT, by such exchange or by order of the Commission or any other governmental authority having jurisdiction, (iv) a banking moratorium shall have been declared by federal or New York or California state authorities, (v) there shall have occurred any attack on, outbreak or escalation of hostilities or act of terrorism involving the United States, any declaration by the United States of a national emergency or war, any substantial change or development involving a prospective substantial change in United States or international political, financial or economic conditions or any other calamity or crisis, (vi) the Company suffers any loss by strike, fire, flood, earthquake, accident or other calamity, whether or not covered by insurance, or (vii) in the judgment of the Representative, there has been, since the time of execution of this Agreement or since the respective dates as of which information is given in the Prospectus, any material adverse change in the assets, properties, condition, financial or otherwise, or in the results of operations, business affairs or business prospects of the Company and its subsidiaries considered as a whole, whether or not arising in the ordinary course of business. Any such termination shall be without liability of any party to any other party except that the provisions of Section 5(a)(viii) and Section 7 hereof shall at all times be effective and shall survive such termination.

(b) If the Representative elects to terminate this Agreement as provided in this Section, the Company and the other Underwriters shall be notified promptly by the Representative by telephone, confirmed by letter.

**10. Substitution of Underwriters .** If any Underwriter or Underwriters shall default in its or their obligations to purchase Securities hereunder on the Closing Date and the aggregate number of Securities which such defaulting Underwriter or Underwriters agreed but failed to purchase does not exceed ten percent (10%) of the total number of Securities to be purchased by all Underwriters on such Closing Date, the other Underwriters shall be obligated severally, in proportion to their respective commitments hereunder, to purchase the Securities which such defaulting Underwriter or Underwriters agreed but failed to purchase on such Closing. If any Underwriter or Underwriters shall so default and the aggregate number of Securities with respect to which such default or defaults occur is more than ten percent (10%) of the total number of Securities to be purchased by all Underwriters on such Closing Date and arrangements satisfactory to the remaining Underwriters and the Company for the purchase of such shares by other persons are not made within forty-eight (48) hours after such default, this Agreement shall terminate.

If the remaining Underwriters or substituted Underwriters are required hereby or agree to take up all or part of the Securities of a defaulting Underwriter or Underwriters on such Closing Date as provided in this Section 10, (i) the Company shall have the right to postpone such Closing Date for a period of not more than five (5) full business days in order to permit the Company to effect whatever changes in the Registration Statement, the Prospectus, or in any other documents or arrangements, which may thereby be made necessary, and the Company agrees to promptly file any amendments to the Registration Statement or the Prospectus which may thereby be made necessary, and (ii) the respective numbers of Securities to be purchased by the remaining Underwriters or substituted Underwriters shall be taken as the basis of their underwriting obligation for all purposes of this Agreement. Nothing herein contained shall relieve any defaulting Underwriter of its liability to the Company or any other Underwriter for damages occasioned by its default hereunder. Any termination of this Agreement pursuant to this Section 10 shall be without liability on the part of any non-defaulting Underwriters or the Company, except that the representations, warranties, covenants, indemnities, agreements and other statements set forth in Section 2 and 3, the obligations with respect to expenses to be paid or reimbursed pursuant to Section 5 and the provisions of Section 7 and Sections 11 through 18, inclusive, shall not terminate and shall remain in full force and effect.

**11. Notices** . Except as otherwise provided herein, all communications hereunder shall be in writing and, (i) if to the Underwriters, shall be mailed, delivered or telecopied to Laidlaw & Company (UK) Ltd., 546 Fifth Avenue, 5<sup>th</sup> Floor, New York, New York 10036, telecopy number: 646-928-2183, Attention: Hugh Regan, Executive Director, Investment Banking, and (ii) if to the Company, shall be mailed, delivered or telecopied to it at Repros Therapeutics, Inc., 2408 Timberloch Place, Suite B-7, The Woodlands, Texas 77380, telecopy number: \_\_\_\_\_, Attention: Larry M. Dillaha, M.D., Chief Executive Officer; or in each case to such other address as the person to be notified may have requested in writing. Any party to this Agreement may change such address for notices by sending to the parties to this Agreement written notice of a new address for such purpose.

**12. Persons Entitled to Benefit of Agreement** . This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns and the controlling persons, officers and directors referred to in Section 7. Nothing in this Agreement is intended or shall be construed to give to any other person, firm or corporation any legal or equitable remedy or claim under or in respect of this Agreement or any provision herein contained. The term "successors and assigns" as herein used shall not include any purchaser, as such purchaser, of any of the Securities from any Underwriter.

**13. Absence of Fiduciary Relationship** . The Company acknowledges and agrees that: (a) each Underwriter has been retained solely to act as underwriter in connection with the sale of the Securities and that no fiduciary, advisory or agency relationship between the Company and any Underwriter has been created in respect of any of the transactions contemplated by this Agreement, irrespective of whether any Underwriter has advised or is advising the Company on other matters; (b) the price and other terms of the Securities set forth in this Agreement were established by the Company following discussions and arms-length negotiations with the Underwriters and the Company is capable of evaluating and understanding and understands and accepts the terms, risks and conditions of the transactions contemplated by this Agreement; (c) it has been advised that each Underwriter and its affiliates are engaged in a broad range of transactions that may involve interests that differ from those of the Company and that no Underwriter has any obligation to disclose such interest and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; (d) it has been advised that each Underwriter is acting, in respect of the transactions contemplated by this Agreement, solely for the benefit of such Underwriter, and not on behalf of the Company.

**14. Amendments and Waivers** . No supplement, modification or waiver of this Agreement shall be binding unless executed in writing by the party to be bound thereby. The failure of a party to exercise any right or remedy shall not be deemed or constitute a waiver of such right or remedy in the future. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provision hereof (regardless of whether similar), nor shall any such waiver be deemed or constitute a continuing waiver unless otherwise expressly provided.

**15. Partial Unenforceability** . The invalidity or unenforceability of any section, paragraph, clause or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph, clause or provision.

**16. Governing Law** . This Agreement shall be governed by and construed in accordance with the laws of the State of New York.

**17. Submission to Jurisdiction** . The Company irrevocably (a) submits to the jurisdiction of any court of the State of New York for the purpose of any suit, action, or other proceeding arising out of this Agreement, or any of the agreements or transactions contemplated by this Agreement, the Registration Statement, the Time of Sale Disclosure Package and the Prospectus (each a "Proceeding"), (b) agrees that all claims in respect of any Proceeding may be heard and determined in any such court, (c) waives, to the fullest extent permitted by law, any immunity from jurisdiction of any such court or from any legal process therein, (d) agrees not to commence any Proceeding other than in such courts, and (e) waives, to the fullest extent permitted by law, any claim that such Proceeding is brought in an inconvenient forum. THE COMPANY (ON BEHALF OF ITSELF AND, TO THE FULLEST EXTENT PERMITTED BY LAW, ON BEHALF OF ITS RESPECTIVE EQUITY HOLDERS AND CREDITORS) HEREBY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY CLAIM BASED UPON, ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT, THE REGISTRATION STATEMENT, THE TIME OF SALE DISCLOSURE PACKAGE AND THE PROSPECTUS.

**18. Counterparts.** This Agreement may be executed in one or more counterparts and, if executed in more than one counterpart, the executed counterparts shall each be deemed to be an original and all such counterparts shall together constitute one and the same instrument.

Please sign and return to the Company the enclosed duplicates of this letter whereupon this letter will become a binding agreement between the Company and the several Underwriters in accordance with its terms.

Very truly yours,

**REPROS THERAPEUTICS, INC.**

By: /s/ Larry M. Dillaha, M.D.  
Name: Larry M. Dillaha, M.D.  
Title: President and Chief Executive Officer

Confirmed as of the date first above-mentioned by the Representative of the several Underwriters.

**LIDLAW & COMPANY (UK) LIMITED**

By: /s/ Hugh Regan  
Name: Hugh Regan  
Title: Executive Director, Investment Banking

*[Signature page to Underwriting Agreement]*

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**SCHEDULE I**

Name	Number of Shares to be Purchased	Number of Pre- Funded Warrants to be Purchased	Number of Series A Warrants to be Purchased	Number of Series B Warrants to be Purchased
Laidlaw & Company (UK) Ltd.	2,744,125	2,245,875	3,742,500	2,495,000
<b>Total</b>	<b>2,744,125</b>	<b>2,245,875</b>	<b>3,742,500</b>	<b>2,495,000</b>

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## SCHEDULE II

### Final Term Sheet

Issuer:	Repros Therapeutics, Inc. (the “Company”)
Symbol:	RPRX
Security:	2,744,125 shares of common stock, par value \$0.001 per share (the “Common Stock”), of the Company  Pre-Funded Series C Warrants to purchase 2,245,875 shares of Common Stock at an exercise price of \$0.001 per share of Common Stock  Series A Warrants to purchase 3,742,500 shares of Common Stock at an exercise price of \$0.84 per share of Common Stock  Series B Warrants to purchase 2,495,000 shares of Common Stock at an exercise price of \$0.92 per share of Common Stock
The term of the Warrant	Series A Warrant – 5 years  Series B Warrant – 2 years  Pre-Funded Series C Warrant – 2 years
Public offering price:	\$0.60 per share and accompanying warrants  \$0.60 per Pre-Funded Series C Warrant and accompanying warrants
Underwriting discounts and commissions:	\$0.048 per share and accompanying warrants  \$0.048 per Pre-Funded Series C Warrant and accompanying warrants
Net proceeds (excluding the over-allotment):	\$2.5 million (after deducting the underwriters’ discount and estimated offering expenses payable by the Company)
Trade date:	May 18, 2018
Settlement date:	May 23, 2018
Underwriters:	Laidlaw & Company (UK) Ltd.

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**SCHEDULE III**

**Subsidiaries**

Renable Pharma Ltd. (UK)

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**SCHEDULE IV**

**Free Writing Prospectus**

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**SCHEDULE V**

**Form of Lock-Up Agreement**

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**SCHEDULE V I**

**List of officers, directors and stockholders executing lock-up agreements**

Kathi Anderson  
Patrick Fourteau  
Dan Cain  
Nola Masterson  
Saira Ramasastry  
Joe Wernicke  
Mike Wyllie  
Larry Dillaha  
Jaye Thompson

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## REPROS THERAPEUTICS, INC.

## SERIES A WARRANT TO PURCHASE COMMON STOCK

Warrant No.:

Number of shares of Common Stock: \_\_\_\_\_

Date of Issuance: May \_\_, 2017 (" **Issuance Date** ")

Repros Therapeutics, Inc., a Delaware corporation (the "**Company**"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [HOLDER], the registered holder hereof or its permitted assigns (the "**Holder**"), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, at any time or times on or after May \_\_, 2017 (the "**Initial Exercisability Date**"), but not after 11:59 p.m., New York time, on the Expiration Date, (as defined below), \_\_\_\_\_ (\_\_\_\_\_) fully paid nonassessable shares of Common Stock, subject to adjustment as provided herein (the "**Warrant Shares**"). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this "**Warrant**"), shall have the meanings set forth in Section 18. This Warrant is one of the Warrants to Purchase Common Stock (the "**Registered Warrants**") issued pursuant to (i) Section 1 of that certain Underwriting Agreement, dated as of May \_\_, 2017 (the "**Subscription Date**"), by and among the Company and the underwriter(s) referred to therein, as amended from time to time (the "**Underwriting Agreement**") and (ii) the Company's Registration Statement on Form S-3 (File number 333-197253) (the "**Registration Statement**").

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1. **EXERCISE OF WARRANT**. (a) **Mechanics of Exercise**. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time or times on or after the Issuance Date, in whole or in part, by (i) delivery of a written notice, in the form attached hereto as Exhibit A (the "**Exercise Notice**"), of the Holder's election to exercise this Warrant and (ii) (A) payment to the Company of an amount equal to the applicable Exercise Price multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the "**Aggregate Exercise Price**") in cash by wire transfer of immediately available funds or (B) if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares. Within one (1) Trading Day following the date on which the Company has received the Exercise Notice, the Company shall transmit by facsimile or electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice to the Holder and the Company's transfer agent (the "**Transfer Agent**"). On or before the earlier of (i) the third (3rd) Trading Day following the date on which the Company has received the Exercise Notice and (ii) the number of Trading Days comprising the Standard Settlement Period following the date of exercise, so long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise) on or prior to the second (2nd) Trading Day following the date on which the Company has received the Exercise Notice (the "**Share Delivery Date**"), the Company shall (X) provided that the Transfer Agent is participating in The Depository Trust Company ("**DTC**") Fast Automated Securities Transfer Program, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, or (Y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any. Upon delivery of the Exercise Notice, assuming that the payment of the aggregate Exercise Price (other than in the case of a Cashless Exercise) is received on or prior to the Share Delivery Date, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is submitted in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue a new Warrant (in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded up to the nearest whole number. The Company shall pay any and all taxes which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company's obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions 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.

(b) **Exercise Price**. For purposes of this Warrant, "**Exercise Price**" means \$0.84 per share, subject to adjustment as provided herein.

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(c) Company's Failure to Timely Deliver Securities. If the Company shall fail for any reason or for no reason to issue to the Holder on or prior to the Share Delivery Date either (I) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, a certificate for the number of shares of Common Stock to which the Holder is entitled and register such shares of Common Stock on the Company's share register or if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (II) if the Registration Statement on Form S-3 (File number 333-197253), or other applicable effective registration statement under the 1933 Act (the "**Registration Statement**") covering the issuance of the Warrant Shares that are the subject of the Exercise Notice (the "**Unavailable Warrant Shares**") is not available for the issuance or resale of such Unavailable Warrant Shares and the Company fails to promptly (x) so notify the Holder and (y) deliver the Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (II) is hereinafter referred as a "**Notice Failure**" and together with the event described in clause (I) above, an "**Exercise Failure**"), and if on or after such Trading Day the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of shares of Common Stock issuable upon such exercise that the Holder anticipated receiving from the Company (a "**Buy-In**"), then the Company shall, within three (3) Trading Days after the Holder's request and in the Holder's discretion, either (i) pay cash to the Holder in an amount equal to the Holder's total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (the "**Buy-In Price**"), at which point the Company's obligation to deliver such certificate (and to issue such shares of Common Stock) or credit the Holder's balance account with DTC for such shares of Common Stock shall terminate, or (ii) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit the Holder's balance account with DTC, as applicable, and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of shares of Common Stock, times (B) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable date of delivery of an Exercise Notice and ending on the applicable Share Delivery Date. Nothing shall limit the 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 (or to electronically deliver such shares of Common Stock) upon the exercise of this Warrant as required pursuant to the terms hereof.

(d) Cashless Exercise. Notwithstanding anything contained herein to the contrary, if a registration statement covering the issuance or resale of the Unavailable Warrant Shares is not available for the issuance or resale of such Unavailable Warrant Shares, the Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the "**Net Number**" of shares of Common Stock determined according to the following formula (a "**Cashless Exercise**"):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A= the total number of shares with respect to which this Warrant is then being exercised.

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B= the last Weighted Average Price immediately preceding the time of delivery of the Exercise Notice giving rise to the applicable “cashless exercise”, as set forth in the applicable Exercise Notice (to clarify, the “last Weighted Average Price” will be the last Weighted Average Price as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the trading market is open, the prior Trading Day’s Weighted Average Price shall be used in this calculation);

C= the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

If shares of Common Stock are issued pursuant to this Section 1(d), the parties acknowledge and agree that in accordance with Section 3(a)(9) of the 1933 Act, such shares of Common Stock shall take on the registered characteristics of this Warrant, and the holding period of this Warrant may be tacked on to the holding period of such shares of Common Stock. Unless the SEC specifically prohibits the foregoing position, the Company agrees not to take any position contrary to this Section 1(d).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 12.

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(f) Limitations on Exercises .

(i) Beneficial Ownership . Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of 4.99% (the " **Maximum Percentage** ") of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other Registered Warrants or Other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(f)(i). For purposes of this Section 1(f)(i), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the " **1934 Act** "). For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other public filing with the Securities and Exchange Commission (the " **SEC** "), as the case may be, (y) a more recent public announcement by the Company or (3) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the " **Reported Outstanding Share Number** "). The Company shall have no obligation to verify or confirm the accordance of such determination. If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder's beneficial ownership, as determined pursuant to this Section 1(f)(i), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the " **Reduction Shares** ") and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Business Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of shares of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the 1934 Act), the number of shares so issued by which the Holder's and the other Attribution Parties' aggregate beneficial ownership exceeds the Maximum Percentage (the " **Excess Shares** ") shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61<sup>st</sup>) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Registered Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the 1934 Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f)(i) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(f)(i) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

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(ii) Intentionally Omitted.

(g) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance upon exercise of this Warrant at least a number of shares of Common Stock equal to 100% of the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of all of this Warrant then outstanding (the "**Required Reserve Amount**" and the failure to have such sufficient number of authorized and unreserved shares of Common Stock, an "**Authorized Share Failure**"), then the Company shall immediately take all action necessary to increase the Company's authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than sixty (60) days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its best efforts to solicit its stockholders' approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding shares of Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C. In the event that upon any exercise of this Warrant, the Company does not have sufficient authorized shares to deliver in satisfaction of such exercise, then unless the Holder elects to void such attempted exercise, the Holder may require the Company to pay to the Holder within three (3) Trading Days of the applicable exercise or attempted exercise, cash in an amount equal to the product of (i) the number of Warrant Shares that the Company is unable to deliver pursuant to this Section 1(g), and (ii) the difference determined by subtracting (x) the Exercise Price then in effect at the time of such exercise or attempted exercise, and (y) the last Weighted Average Price immediately preceding the time of the exercise or attempted exercise (to clarify, the "last Weighted Average Price" will be the last Weighted Average Price as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the trading market is open, the prior Trading Day's Weighted Average Price shall be used in this calculation.

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2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(a) Adjustment Upon Issuance of Shares of Common Stock. If and whenever on or after the Subscription Date the Company issues or sells, or in accordance with this Section 2 is deemed to have issued or sold, any shares of Common Stock (including the issuance or sale of shares of Common Stock owned or held by or for the account of the Company, but excluding shares of Common Stock deemed to have been issued or sold by the Company as or in connection with any Excluded Securities, for a consideration per share (the " **New Issuance Price** ") less than a price (the " **Applicable Price** ") equal to the Exercise Price in effect immediately prior to such issue or sale or deemed issuance or sale (the foregoing a " **Dilutive Issuance** "), then immediately after such Dilutive Issuance, the Exercise Price then in effect shall be reduced to an amount equal to the New Issuance Price. For purposes of determining the adjusted Exercise Price under this Section 2(a), the following shall be applicable:

(i) Issuance of Options. If the Company in any manner grants or sells any Options and the lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Option or upon conversion, exercise or exchange of any Convertible Securities issuable upon exercise of any such Option is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the granting or sale of such Option for such price per share. For purposes of this Section 2(a)(i), the "lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Options or upon conversion, exercise or exchange of any Convertible Securities issuable upon exercise of any such Option" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the granting or sale of the Option, upon exercise of the Option and upon conversion, exercise or exchange of any Convertible Security issuable upon exercise of such Option less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the granting or sale of such Option, upon exercise of such Option and upon conversion exercise or exchange of any Convertible Security issuable upon exercise of such Option. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock or of such Convertible Securities upon the exercise of such Options or upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities.

(ii) Issuance of Convertible Securities. If the Company in any manner issues or sells any Convertible Securities and the lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the issuance or sale of such Convertible Securities for such price per share. For the purposes of this Section 2(a)(ii), the "lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the issuance or sale of the Convertible Security and upon conversion, exercise or exchange of such Convertible Security less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the issuance or sale of such Convertible Security and upon conversion, exercise or exchange of such Convertible Security. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities, and if any such issue or sale of such Convertible Securities is made upon exercise of any Options for which adjustment of this Warrant has been or is to be made pursuant to other provisions of this Section 2(a), no further adjustment of the Exercise Price shall be made by reason of such issue or sale.

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(iii) Change in Option Price or Rate of Conversion. If the purchase price provided for in any Options, the additional consideration, if any, payable upon the issue, conversion, exercise or exchange of any Convertible Securities, or the rate at which any Convertible Securities are convertible into or exercisable or exchangeable for shares of Common Stock increases or decreases at any time, the Exercise Price in effect at the time of such increase or decrease shall be adjusted to the Exercise Price, which would have been in effect at such time had such Options or Convertible Securities provided for such increased or decreased purchase price, additional consideration or increased or decreased conversion rate, as the case may be, at the time initially granted, issued or sold. For purposes of this Section 2(a)(iii), if the terms of any Option or Convertible Security that was outstanding as of the Subscription Date are increased or decreased in the manner described in the immediately preceding sentence, then such Option or Convertible Security and the shares of Common Stock deemed issuable upon exercise, conversion or exchange thereof shall be deemed to have been issued as of the date of such increase or decrease. No adjustment pursuant to this Section 2(a) shall be made if such adjustment would result in an increase of the Exercise Price then in effect.

(iv) Calculation of Consideration Received. In case any Option is issued in connection with the issue or sale of other securities of the Company, together comprising one integrated transaction, (x) the Options will be deemed to have been issued for the Option Value of such Options and (y) the other securities issued or sold in such integrated transaction shall be deemed to have been issued or sold for the difference of (I) the aggregate consideration received by the Company less any consideration paid or payable by the Company pursuant to the terms of such other securities of the Company, less (II) the Option Value. If any shares of Common Stock, Options or Convertible Securities are issued or sold or deemed to have been issued or sold for cash, the consideration other than cash received therefor will be deemed to be the net amount received by the Company therefor. If any shares of Common Stock, Options or Convertible Securities are issued or sold for a consideration other than cash, the amount of such consideration received by the Company will be the fair value of such consideration, except where such consideration consists of publicly traded securities, in which case the amount of consideration received by the Company will be the Closing Sale Price of such publicly traded securities on the date of receipt. If any shares of Common Stock, Options or Convertible Securities are issued to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving entity, the amount of consideration therefor will be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be. The fair value of any consideration other than cash or publicly traded securities will be determined jointly by the Company and the Required Holders. If such parties are unable to reach agreement within ten (10) days after the occurrence of an event requiring valuation (the "**Valuation Event**"), the fair value of such consideration will be determined within five (5) Business Days after the tenth (10<sup>th</sup>) day following the Valuation Event by an independent, reputable appraiser jointly selected by the Company and the Required Holders. The determination of such appraiser shall be final and binding upon all parties absent manifest error and the fees and expenses of such appraiser shall be borne by the Company.

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(v) Record Date. If the Company takes a record of the holders of shares of Common Stock for the purpose of entitling them (A) to receive a dividend or other distribution payable in shares of Common Stock, Options or in Convertible Securities or (B) to subscribe for or purchase shares of Common Stock, Options or Convertible Securities, then such record date will be deemed to be the date of the issuance or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be.

(vi) No Readjustments. For the avoidance of doubt, in the event the Exercise Price has been adjusted pursuant to this Section 2(a) and the Dilutive Issuance that triggered such adjustment does not occur, is not consummated, is unwound or is cancelled after the facts for any reason whatsoever, in no event shall the Exercise Price be readjusted to the Exercise Price that would have been in effect if such Dilutive Issuance had not occurred or been consummated.

(b) Exercise Floor Price. No adjustment to the Exercise Price pursuant to Section 2 of this Warrant shall cause the Exercise Price to be less than \$0.17 (the "**Exercise Floor Price**"). For the avoidance of doubt, if a Dilutive Issuance would cause the Exercise Price to be lower than the Exercise Floor Price but for the immediately preceding sentence, then the Exercise Price shall be equal to the Exercise Floor Price.

(c) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant, with the prior written consent of the Required Holders, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

(d) Adjustment Upon Subdivision or Combination of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(d) shall become effective at the close of business on the date the subdivision or combination becomes effective.

(e) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to this Section 2, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the adjusted number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment (without regard to any limitations on exercise contained herein).

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(f) Other Events. If any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares, as mutually determined by the Company's Board of Directors and the Required Holders, so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(f) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. From the Subscription Date through and including the Expiration Date 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, options, evidence of indebtedness or any other assets 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 or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution ( provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

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#### 4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. From the Subscription Date and through and including the Expiration Date, in addition to any adjustments pursuant to Section 2 above, if at any time the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right held similarly in abeyance) to the same extent as if there had been no such limitation).

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(b) **Fundamental Transactions**. From the Subscription Date and through and including the Expiration Date, the Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes 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 4(b) pursuant to written agreements in form and substance reasonably satisfactory to the Required Holders and approved by the Required Holders prior to such Fundamental Transaction, including agreements, if so requested by the Holder, to deliver to each holder of the Registered Warrants in exchange for such Registered Warrants a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, an adjusted exercise price equal to the value for the shares of Common Stock reflected by the terms of such Fundamental Transaction, and exercisable for a corresponding number of shares of capital stock 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 reasonably satisfactory to the Required Holders, 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 adjustments to the 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 occurrence or consummation of such Fundamental Transaction). Any security issuable or potentially issuable to the Holder pursuant to the terms of this Warrant on the consummation of a Fundamental Transaction shall be registered and freely tradable by the Holder without any restriction or limitation or the requirement to be subject to any holding period pursuant to any applicable securities laws. Upon the occurrence or consummation of any Fundamental Transaction, and it shall be a required condition to the occurrence or consummation of any Fundamental Transaction that, the Company and the Successor Entity or Successor Entities, jointly and severally, shall succeed to, and the Company shall cause any Successor Entity or Successor Entities to jointly and severally succeed to, and be added to the term "Company" under this Warrant (so that from and after the date of such Fundamental Transaction, each and every provision of this Warrant referring to the "Company" shall refer instead to each of the Company and the Successor Entity or Successor Entities, jointly and severally), and the Company and the Successor Entity or Successor Entities, jointly and severally, may exercise every right and power of the Company prior thereto and shall assume all of the obligations of the Company prior thereto under this Warrant with the same effect as if the Company and such Successor Entity or Successor Entities, jointly and severally, had been named as the Company in this Warrant, and, solely at the request of the Holder, if the Successor Entity and/or Successor Entities is a publicly traded corporation whose common stock is quoted on or listed for trading on an Eligible Market, shall deliver (in addition to and without limiting any right under this Warrant) to the Holder in exchange for this Warrant a security of the Successor Entity and/or Successor Entities evidenced by a written instrument substantially similar in form and substance to this Warrant and exercisable for a corresponding number of shares of capital stock of the Successor Entity and/or Successor Entities (the "**Successor Capital Stock**") 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 (such corresponding number of shares of Successor Capital Stock to be delivered to the Holder shall be equal to the greater of (A) the quotient of (i) the aggregate dollar value of all consideration (including cash consideration and any consideration other than cash ("**Non-Cash Consideration**"), in such Fundamental Transaction, as such values are set forth in any definitive agreement for the Fundamental Transaction that has been executed at the time of the first public announcement of the Fundamental Transaction or, if no such value is determinable from such definitive agreement, as determined in accordance with Section 12 with the term "Non-Cash Consideration" being substituted for the term "Exercise Price") that the Holder would have been entitled to receive upon the happening of such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction, had this Warrant been exercised immediately prior to such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction (without regard to any limitations on the exercise of this Warrant) (the "**Aggregate Consideration**") divided by (ii) the per share Closing Sale Price of such Successor Capital Stock on the Trading Day immediately prior to the consummation or occurrence of the Fundamental Transaction and (B) the product of (i) the Aggregate Consideration and (ii) the highest exchange ratio pursuant to which any stockholder of the Company may exchange shares of Common Stock for Successor Capital Stock) (provided, however, to the extent that the Holder's right to receive any such shares of publicly traded common stock (or their equivalent) of the Successor Entity would result in the Holder and its other Attribution Parties exceeding the Maximum Percentage, if applicable, then the Holder shall not be entitled to receive such shares to such extent (and shall not be entitled to beneficial ownership of such shares of publicly traded common stock (or their equivalent) of the Successor Entity as a result of such consideration to such extent) and the portion of such shares shall be held in abeyance for the Holder until such time or times, as its right thereto would not result in the Holder and its other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be delivered such shares to the extent as if there had been no such limitation), and such security shall be reasonably satisfactory to the Holder, and with an identical exercise price to the Exercise Price hereunder (such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting after the consummation or occurrence of such Fundamental Transaction the economic value of this Warrant that was in effect immediately prior to the consummation or occurrence of such Fundamental Transaction, as elected by the Holder solely at its option). Upon occurrence or consummation of the Fundamental Transaction, and it shall be a required condition to the occurrence or consummation of such Fundamental Transaction that, the Company and the Successor Entity or Successor Entities shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the occurrence or consummation of the Fundamental Transaction, as elected by the Holder solely at its option, shares of Common Stock, Successor Capital Stock or, in lieu of the shares of Common Stock or Successor Capital Stock (or other securities, cash, assets or other property purchasable upon the exercise of this Warrant prior to such Fundamental Transaction), such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights), which for purposes of clarification may continue to be shares of Common Stock, if any, that the Holder would have been entitled to receive upon the happening of such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction, had this Warrant been exercised immediately prior to such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction (without regard to any limitations on the exercise of this Warrant), as adjusted in accordance with the provisions of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the occurrence or consummation of any Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities, cash, assets or other property with respect to or in exchange for shares of Common Stock (a "**Corporate Event**"), the Company shall make appropriate provision to insure that, and any applicable Successor Entity or Successor Entities shall ensure that, and it shall be a required condition to the occurrence or consummation of such Corporate Event that, the Holder will thereafter have the right to receive upon exercise of this Warrant at any time after the occurrence or consummation of the Corporate Event, shares of Common Stock or Successor Capital Stock or, if so elected by the Holder, in lieu of the shares of Common Stock (or other securities, cash, assets or other property) purchasable upon the exercise of this Warrant prior to such Corporate Event (but not in lieu of such items still issuable under Sections 3 and 4(a), which shall continue to be receivable on the shares of Common Stock or on the such shares of stock, securities, cash, assets or any other property otherwise receivable with respect to or in exchange for shares of Common Stock), such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights and any shares of Common Stock) which the Holder would have been entitled to receive upon the occurrence or consummation of such Corporate Event or the record, eligibility or other determination date for the event resulting in such Corporate Event, had this Warrant been exercised immediately prior to such Corporate Event or the record, eligibility or other determination date for the event resulting in such Corporate Event (without regard to any limitations on exercise of this Warrant). Provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 4(b) shall apply

similarly and equally to successive Fundamental Transactions and Corporate Events.

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(c) Notwithstanding the foregoing, in the event of Fundamental Transaction, at the request of the Holder delivered at any time commencing on the earliest to occur of (x) the public disclosure of any Fundamental Transaction, (y) the consummation of any Fundamental Transaction and (z) the Holder first becoming aware of any Fundamental Transaction through the date that is ninety (90) days after the public disclosure of the consummation of such Fundamental Transaction by the Company pursuant to a Current Report on Form 8-K filed with the SEC, the Company or the Successor Entity (as the case may be) shall purchase this Warrant from the Holder on the date of such request by paying to the Holder cash in an amount equal to the Black Scholes Value. Payment of such amounts shall be made by the Company (or at the Company's direction) to the Holder on or prior to the later of (x) the second (2nd) Trading Day after the date of such request and (y) the date of consummation of such Fundamental Transaction.

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation or Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, 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, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Registered Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Registered Warrants, 100% of the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Registered Warrants then outstanding (without regard to any limitations on exercise).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 6, if not filed with the SEC, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

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## 7. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. Subject to the terms hereof, if this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender; provided, however, that no Registered Warrants for fractional Warrant Shares shall be given.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, unless otherwise provided herein, such notice shall be given at its last address as it shall appear upon the warrant register of the Company. The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder.

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9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the holders of a majority of the Registered Warrants and, so long as the Lead Investor holds any Registered Warrants, the Lead Investor .

10. GOVERNING LAW; JURISDICTION; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. The Company 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 to the Company at its principal executive office and agrees that such service shall constitute good and sufficient service of process and notice thereof. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

11. CONSTRUCTION; HEADINGS. This Warrant shall be deemed to be jointly drafted by the Company and all the Buyers and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

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12. DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within two (2) Business Days of receipt of the Exercise Notice giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and reasonably acceptable to the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

13. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and 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 right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. 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 of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

14. TRANSFER. This Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

15. SEVERABILITY. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s).

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16. **DISCLOSURE**. Upon receipt or delivery by the Company of any notice in accordance with the terms of this Warrant, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries (as defined in the Securities Purchase Agreement), the Company shall within one (1) Business Day after any such receipt or delivery publicly disclose such material, nonpublic information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, nonpublic information relating to the Company or its Subsidiaries, the Company so shall indicate to the Holder contemporaneously with delivery of such notice, and in the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries.

17. **COMPANY OPTIONAL REDEMPTION**. If at any time after the date hereof, (i) the Closing Bid Price of the Common Stock is equal to or greater than \$1.75 per share (as adjusted for stock splits, stock combinations and the like occurring from and after the Issuance Date) (the “**Trigger Price**”) for a period of thirty (30) consecutive Trading Days following the applicable date of determination (the thirty (30) consecutive Trading Days on which the condition in this clause (i) is satisfied are referred to herein as the “**Measuring Period**”), (ii) no Equity Conditions Failure shall have occurred, and (iii) the aggregate dollar trading volume (as reported on Bloomberg) of the Common Stock on the applicable Eligible Market for each Trading Day during the Measuring Period exceeds \$225,000 per day (the foregoing conditions in clause (i) through (iii) above, collectively, the “**Redemption Conditions**”), then the Company shall have the right to purchase the entire then-remaining portion of this Warrant from the Holder as set forth below (a “**Company Redemption**”). The Company may exercise its right to purchase the entire then-remaining portion of this Warrant under this Section 17 by delivering (provided that all of the Redemption Conditions are then satisfied), on the first (1st) Trading Day immediately following the satisfaction of all the Redemption Conditions, a written notice thereof by via e-mail to the Holder (the “**Redemption Notice**”) and the date the Holder receives such notice by facsimile is referred to as the “**Redemption Notice Date**”). The Redemption Notice shall be irrevocable. The Redemption Notice shall (1) state the Trading Day selected for the Company Redemption in accordance with this Section 17, which Trading Day shall be at least twenty (20) Trading Days but not more than sixty (60) Trading Days following the Redemption Notice Date (the “**Redemption Date**”), (2) contain a certification from the Chief Executive Officer of the Company that there has been no Equity Conditions Failure and (3) contain a certification from the Chief Executive Officer of the Company that the Company has simultaneously taken the same action with respect to all of the Other Warrants that are then eligible to be purchased by the Company. On the Redemption Date, the Company shall pay \$0.01 for this Warrant (the “**Redemption Price**”) to the Holder on the Redemption Date by wire transfer of immediately available funds to an account specified by the Holder. Notwithstanding anything contained in this Section 17 to the contrary, if (I) any shares of Common Stock trade for a price less than the Trigger Price on any day Trading Day during the period commencing on the Redemption Notice Date and ending on the Trading Day immediately preceding the Redemption Date; (II) the aggregate dollar trading volume (as reported on Bloomberg) of the Common Stock on the applicable Eligible Market on any day Trading Day during the period commencing on the Redemption Notice Date and ending on the Trading Day immediately preceding the Redemption Date is less than \$225,000; or (III) an Equity Conditions Failure occurs on any day during the period commencing on the Redemption Notice Date and ending on the Redemption Date which has not been waived in writing by the Holder, then, in any case, the applicable Redemption Notice delivered to the Holder shall be null and void ab initio and the Company Redemption shall not occur. If the Company elects to cause a Company Redemption of the entire then-remaining portion of this Warrant pursuant to this Section 17, then it must simultaneously take the same action with respect to all of the Other Warrants that are then eligible to be purchased. Notwithstanding the foregoing, the Holder may exercise all or any portion of this Warrant at any time and from time to time after the Redemption Notice Date until the Holder’s receipt of the Redemption Price from the Company and any such exercise of this Warrant shall not reduce the Redemption Price.

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18. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(a) " **1933 Act** " means the Securities Act of 1933, as amended.

(b) " **Affiliate** " means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that "control" of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(c) " **Approved Stock Plan** " means any employee benefit plan which has been approved by the Board of Directors of the Company, pursuant to which the Company's securities may be issued to any employee, officer or director for services provided to the Company.

(d) " **Attribution Parties** " means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Issuance Date, directly or indirectly managed or advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

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(e) " **Black Scholes Value** " means the value of this Warrant calculated using the greater of the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg, as a put option or a call option, determined as of the day immediately following the public announcement of the applicable Fundamental Transaction, or, if the Fundamental Transaction is not publicly announced, the date the Fundamental Transaction is consummated, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of such date of request, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the day immediately following the public announcement of the applicable Fundamental Transaction, or, if the Fundamental Transaction is not publicly announced, the date the Fundamental Transaction is consummated, (iii) 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 the Fundamental Transaction, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(f) " **Bloomberg** " means Bloomberg Financial Markets.

(g) " **Business Day** " means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(h) " **Closing Bid Price** " and " **Closing Sale Price** " means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

(i) " **Common Stock** " means (i) the Company's Class A common stock, par value \$0.001 per share, and (ii) any share capital into which such Common Stock shall have been changed or any share capital resulting from a reclassification of such Common Stock.

(j) " **Convertible Securities** " means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock, other than Excluded Securities.

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(k) " **Eligible Market** " means the Principal Market, the NYSE MKT LLC, The NASDAQ Global Select Market, The NASDAQ Global Market, The New York Stock Exchange, Inc., the OTC QX market or the OTC QB market.

(l) " **Equity Conditions** " means: (i) on each day during the period beginning one month prior to the applicable date of determination and ending on and including the applicable date of determination all Warrant Shares (assuming a cashless exercise in full of this Warrant) shall be eligible for sale without restriction under Rule 144 (including, without limitation, volume restrictions) and without the need for current public information required by Rule 144(c)(1) (or Rule 144(i)(2), if applicable) and without the need for registration under any applicable federal or state securities laws (disregarding any limitation on exercise of the Warrants); (ii) on each day during the period beginning three months prior to the applicable date of determination and ending on and including the applicable date of determination (the " **Equity Conditions Measuring Period** "), the Common Stock (including all Warrant Shares) is listed or designated for quotation (as applicable) on an Eligible Market and shall not have been suspended from trading on an Eligible Market (other than suspensions of not more than two (2) days and occurring prior to the applicable date of determination due to business announcements by the Company) nor shall delisting or suspension by an Eligible Market be pending or have been threatened either (A) in writing by such Eligible Market or (B) by falling below the minimum listing maintenance requirements of the Eligible Market on which the Common Stock is then listed or designated for quotation (as applicable); (iii) on each day during the Equity Conditions Measuring Period, the Company shall have delivered all shares of Common Stock issuable upon exercise of this Warrant on a timely basis as set forth in Section 1(a) hereof; (iv) any shares of Common Stock to be issued in connection with the event requiring determination may be issued in full without violating Section 1(f) hereof; (v) any shares of Common Stock to be issued in connection with the event requiring determination may be issued in full without violating the rules or regulations of the Eligible Market on which the Common Stock is then listed or designated for quotation (as applicable); (vi) on each day during the Equity Conditions Measuring Period, no public announcement of a pending, proposed or intended Fundamental Transaction shall have occurred which has not been abandoned, terminated or consummated; (vii) the Company shall have no knowledge of any fact that would reasonably be expected to cause the Warrant Shares (assuming a cashless exercise in full of this Warrant) to not be eligible for sale without restriction pursuant to Rule 144 (including, without limitation, volume restrictions) and without the need for current public information required by Rule 144(c)(1) (or Rule 144(i)(2), if applicable) or any applicable state securities laws (disregarding any limitation on exercise of the Warrants); (viii) the Holder shall not be in possession of any material, non-public information provided to any of them by the Company, any of its affiliates or any of their respective employees, officers, representatives, agents or the like; and (ix) on each day during the Equity Conditions Measuring Period, the Company otherwise shall have been in compliance with each, and shall not have breached any, provision, covenant, representation or warranty of the Underwriting Agreement.

(m) " **Equity Conditions Failure** " means that on any day during the period commencing twenty (20) Trading Days prior to the Redemption Notice Date through the Redemption Date, the Equity Conditions have not been satisfied (or waived in writing by the Holder).

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(n) " **Excluded Securities** " means : (i) any shares of Common Stock or standard options issued to directors, officers or employees of the Company for services rendered to the Company in their capacity as such pursuant to an Approved Stock Plan (as defined above), provided that (A) all such issuances (taking into account the shares of Common Stock issuable upon exercise of such options) after the Subscription Date pursuant to this clause (i) do not, in the aggregate, exceed more than 5% of the Common Stock issued and outstanding immediately prior to the Subscription Date in any twelve (12) month period and (B) the exercise price of any such options is not lowered, none of such options are amended to increase the number of shares issuable thereunder and none of the terms or conditions of any such options are otherwise materially changed in any manner that adversely affects the holders of Registered Warrants;, (ii) any shares of Common Stock issued or issuable upon exercise of the Registered Warrants or the Other Warrants; provided, that the terms of such Registered Warrants and Other Warrants are not amended, modified or changed on or after the Subscription Date, (iii) any shares of Common Stock issued or issuable upon exercise of any Options or Convertible Securities which are outstanding on the day immediately preceding the Subscription Date; provided, that the terms of such Options or Convertible Securities are not amended, modified or changed on or after the Subscription Date, or (iv) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that any such issuance shall only be to a Person (or to the equityholders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with or complementary to 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.

(o) " **Expiration Date** " means the date sixty (60) months after the Initial Exercisability Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a " **Holiday** "), the next day that is not a Holiday.

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(p) “ **Fundamental Transaction** ” means (A) that the Company shall, directly or indirectly, including through Subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Subject Entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its "significant subsidiaries" (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby all such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of Common Stock, (y) at least 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its Common Stock, (B) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the "beneficial owner" (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their shares of Common Stock without approval of the stockholders of the Company or (C) directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

(q) “ **Group** ” means a "group" as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(r) Intentionally Omitted.

(s) “ **Initial Warrant Amount** ” means the maximum number of Warrant Shares initially issuable upon a cash exercise of this Warrant on the Issuance Date (without regard to any restrictions or limitation on exercise contained herein, including pursuant to Section 1(f)).

(t) “ **Lead Investor** ” means Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B.

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(u) " **Option Value** " means the value of an Option calculated using the greater of the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg, as a put option or a call option, determined as of (A) the Trading Day prior to the public announcement of the issuance of the applicable Option, if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of the applicable Option as of the applicable date of determination, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of (A) the Trading Day immediately following the public announcement of the applicable Option if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iii) the underlying price per share used in such calculation shall be the highest Weighted Average Price of the Common Stock during the period beginning on the Trading Day prior to the execution of definitive documentation relating to the issuance of the applicable Option and ending on (A) the Trading Day immediately following the public announcement of such issuance, if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(v) " **Options** " means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(w) " **Other Warrants** " means the Series A Warrants issued by the Company on the Issuance Date pursuant to the Underwriting Agreement.

(x) " **Parent Entity** " of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or common shares or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Required Holders, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or such entity designated by the Required Holders or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(y) " **Person** " means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(z) " **Principal Market** " means The NASDAQ Capital Market.

(aa) " **Required Holders** " means the holders of the Registered Warrants representing at least a majority of the shares of Common Stock underlying the Registered Warrants then outstanding and shall include the Lead Investor so long as the Lead Investor or any of its Affiliates holds any Registered Warrants.

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(bb) "**Standard Settlement Period**" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Eligible Market with respect to the Common Stock as in effect on the date of delivery of the applicable Exercise Notice.

(cc) "**Subject Entity**" means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(dd) "**Successor Entity**" means one or more Person or Persons (or, if so elected by the Holder, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or one or more Person or Persons (or, if so elected by the Holder, the Company or the Parent Entity) with which such Fundamental Transaction shall have been entered into.

(ee) "**Trading Day**" means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(ff) "**Warrant Exercise Percentage**" means, with respect to any exercise of this Warrant, the quotient determined by dividing (x) the number of Warrants being exercised (without any restrictions or limitation on exercise contained herein, including pursuant to Section 1(f) and (y) the Initial Warrant Amount.

(gg) "**Weighted Average Price**" means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest closing bid price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

[Signature Page Follows]

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**IN WITNESS WHEREOF**, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

**REPROS THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Name:  
Title:

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EXERCISE NOTICE

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS  
WARRANT TO PURCHASE COMMON STOCK

REPROS THERAPEUTICS, INC.

The undersigned holder hereby exercises the right to purchase \_\_\_\_\_ shares of Common Stock (" **Warrant Shares** ") of Repros Therapeutics, Inc., a Delaware corporation (t he " **Company** "), evidenced by the attached Warrant to Purchase Common Stock (the " **Warrant** "). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as: \_\_\_\_\_ a " Cash Exercise " with respect to \_\_\_\_\_ Warrant Shares; and/or \_\_\_\_\_ a "Cashless Exercise" with respect to \_\_\_\_\_ Warrant Shares, resulting in a delivery obligation by the Company to the Holder of \_\_\_\_\_ shares of Common Stock representing the applicable Net Number.

2. Payment of Exercise Price. The holder shall pay the Aggregate Exercise Price in the sum of \$ \_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to Holder, or its designee or agent as specified below, \_\_\_\_\_ shares of Common Stock in accordance with the terms of the Warrant. Delivery shall be made to Holder, or for its benefit, as follows:

Check here if requesting delivery as a certificate to the following name and to the following address:

Issue to: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Check here if requesting delivery by Deposit/Withdrawal at Custodian as follows:

DTC Participant: \_\_\_\_\_

DTC Number: \_\_\_\_\_

Account Number: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_, \_\_\_\_\_

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Name of Registered Holder

By: \_\_\_\_\_

Name:

Title:

Tax ID: \_\_\_\_\_

Facsimile: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

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**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs Computershare Trust Company, N.A. to issue the above indicated number of shares of Common Stock in accordance with the Transfer Agent Instructions dated May \_\_, 2017 from the Company and acknowledged and agreed to by directs Computershare Trust Company, N.A.

**REPROS THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Name:  
Title:

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## REPROS THERAPEUTICS, INC.

## SERIES B WARRANT TO PURCHASE COMMON STOCK

Warrant No.:

Number of shares of Common Stock: \_\_\_\_\_

Date of Issuance: May \_\_, 2017 (" **Issuance Date** ")

Repros Therapeutics, Inc., a Delaware corporation (the "**Company**"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [HOLDER], the registered holder hereof or its permitted assigns (the "**Holder**"), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, at any time or times on or after May \_\_, 2017 (the "**Initial Exercisability Date**"), but not after 11:59 p.m., New York time, on the Expiration Date, (as defined below), \_\_\_\_\_ (\_\_\_\_\_) fully paid nonassessable shares of Common Stock, subject to adjustment as provided herein (the "**Warrant Shares**"). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this "**Warrant**"), shall have the meanings set forth in Section 18. This Warrant is one of the Warrants to Purchase Common Stock (the "**Registered Warrants**") issued pursuant to (i) Section 1 of that certain Underwriting Agreement, dated as of May \_\_, 2017 (the "**Subscription Date**"), by and among the Company and the underwriter(s) referred to therein, as amended from time to time (the "**Underwriting Agreement**") and (ii) the Company's Registration Statement on Form S-3 (File number 333-197253) (the "**Registration Statement**").

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1. **EXERCISE OF WARRANT.** (a) **Mechanics of Exercise.** Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time or times on or after the Issuance Date, in whole or in part, by (i) delivery of a written notice, in the form attached hereto as Exhibit A (the "**Exercise Notice**"), of the Holder's election to exercise this Warrant and (ii) (A) payment to the Company of an amount equal to the applicable Exercise Price multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the "**Aggregate Exercise Price**") in cash by wire transfer of immediately available funds or (B) if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares. Within one (1) Trading Day following the date on which the Company has received the Exercise Notice, the Company shall transmit by facsimile or electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice to the Holder and the Company's transfer agent (the "**Transfer Agent**"). On or before the earlier of (i) the third (3rd) Trading Day following the date on which the Company has received the Exercise Notice and (ii) the number of Trading Days comprising the Standard Settlement Period following the date of exercise, so long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise) on or prior to the second (2nd) Trading Day following the date on which the Company has received the Exercise Notice (the "**Share Delivery Date**"), the Company shall (X) provided that the Transfer Agent is participating in The Depository Trust Company ("**DTC**") Fast Automated Securities Transfer Program, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, or (Y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any. Upon delivery of the Exercise Notice, assuming that the payment of the aggregate Exercise Price (other than in the case of a Cashless Exercise) is received on or prior to the Share Delivery Date, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is submitted in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue a new Warrant (in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded up to the nearest whole number. The Company shall pay any and all taxes which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company's obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions 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.

(b) **Exercise Price.** For purposes of this Warrant, "**Exercise Price**" means \$0.92 per share, subject to adjustment as provided herein.

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(c) Company's Failure to Timely Deliver Securities. If the Company shall fail for any reason or for no reason to issue to the Holder on or prior to the Share Delivery Date either (I) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, a certificate for the number of shares of Common Stock to which the Holder is entitled and register such shares of Common Stock on the Company's share register or if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (II) if the Registration Statement on Form S-3 (File number 333-197253), or other applicable effective registration statement under the 1933 Act (the "**Registration Statement**") covering the issuance of the Warrant Shares that are the subject of the Exercise Notice (the "**Unavailable Warrant Shares**") is not available for the issuance or resale of such Unavailable Warrant Shares and the Company fails to promptly (x) so notify the Holder and (y) deliver the Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (II) is hereinafter referred to as a "**Notice Failure**" and together with the event described in clause (I) above, an "**Exercise Failure**"), and if on or after such Trading Day the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of shares of Common Stock issuable upon such exercise that the Holder anticipated receiving from the Company (a "**Buy-In**"), then the Company shall, within three (3) Trading Days after the Holder's request and in the Holder's discretion, either (i) pay cash to the Holder in an amount equal to the Holder's total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (the "**Buy-In Price**"), at which point the Company's obligation to deliver such certificate (and to issue such shares of Common Stock) or credit the Holder's balance account with DTC for such shares of Common Stock shall terminate, or (ii) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit the Holder's balance account with DTC, as applicable, and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of shares of Common Stock, times (B) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable date of delivery of an Exercise Notice and ending on the applicable Share Delivery Date. Nothing shall limit the 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 (or to electronically deliver such shares of Common Stock) upon the exercise of this Warrant as required pursuant to the terms hereof.

(d) Cashless Exercise. Notwithstanding anything contained herein to the contrary, if a registration statement covering the issuance or resale of the Unavailable Warrant Shares is not available for the issuance or resale of such Unavailable Warrant Shares, the Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the "**Net Number**" of shares of Common Stock determined according to the following formula:

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A= the total number of shares with respect to which this Warrant is then being exercised.

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B= the last Weighted Average Price immediately preceding the time of delivery of the Exercise Notice giving rise to the applicable “cashless exercise”, as set forth in the applicable Exercise Notice (to clarify, the “last Weighted Average Price” will be the last Weighted Average Price as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the trading market is open, the prior Trading Day’s Weighted Average Price shall be used in this calculation);

C= the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

Notwithstanding the foregoing, at any time on any date after the thirtieth (30<sup>th</sup>) calendar day following the Issuance Date and prior to the Expiration Date, the Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of the foregoing or of making any cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise a number of shares of Common Stock equal to the Alternate Net Number.

If shares of Common Stock are issued pursuant to this Section 1(d) (each such exercise, a “**Cashless Exercise**”), the parties acknowledge and agree that in accordance with Section 3(a)(9) of the 1933 Act, such shares of Common Stock shall take on the registered characteristics of this Warrant, and the holding period of this Warrant may be tacked on to the holding period of such shares of Common Stock. Unless the SEC specifically prohibits the foregoing position, the Company agrees not to take any position contrary to this Section 1(d).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 12.

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(f) Limitations on Exercises .

(i) Beneficial Ownership . Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of 4.99% (the " **Maximum Percentage** ") of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other Registered Warrants or Other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(f)(i). For purposes of this Section 1(f)(i), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the " **1934 Act** "). For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other public filing with the Securities and Exchange Commission (the " **SEC** "), as the case may be, (y) a more recent public announcement by the Company or (3) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the " **Reported Outstanding Share Number** "). The Company shall have no obligation to verify or confirm the accordance of such determination. If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder's beneficial ownership, as determined pursuant to this Section 1(f)(i), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the " **Reduction Shares** ") and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Business Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of shares of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the 1934 Act), the number of shares so issued by which the Holder's and the other Attribution Parties' aggregate beneficial ownership exceeds the Maximum Percentage (the " **Excess Shares** ") shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61<sup>st</sup>) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Registered Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the 1934 Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f)(i) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(f)(i) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

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(ii) Intentionally Omitted.

(g) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance upon exercise of this Warrant at least a number of shares of Common Stock equal to 100% of the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of all of this Warrant then outstanding (the "**Required Reserve Amount**" and the failure to have such sufficient number of authorized and unreserved shares of Common Stock, an "**Authorized Share Failure**"), then the Company shall immediately take all action necessary to increase the Company's authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than sixty (60) days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its best efforts to solicit its stockholders' approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding shares of Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C. In the event that upon any exercise of this Warrant, the Company does not have sufficient authorized shares to deliver in satisfaction of such exercise, then unless the Holder elects to void such attempted exercise, the Holder may require the Company to pay to the Holder within three (3) Trading Days of the applicable exercise or attempted exercise, cash in an amount equal to the product of (i) the number of Warrant Shares that the Company is unable to deliver pursuant to this Section 1(g), and (ii) the difference determined by subtracting (x) the Exercise Price then in effect at the time of such exercise or attempted exercise, and (y) the last Weighted Average Price immediately preceding the time of the exercise or attempted exercise (to clarify, the "last Weighted Average Price" will be the last Weighted Average Price as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the trading market is open, the prior Trading Day's Weighted Average Price shall be used in this calculation.

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2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(a) Adjustment Upon Issuance of Shares of Common Stock. If and whenever on or after the Subscription Date the Company issues or sells, or in accordance with this Section 2 is deemed to have issued or sold, any shares of Common Stock (including the issuance or sale of shares of Common Stock owned or held by or for the account of the Company, but excluding shares of Common Stock deemed to have been issued or sold by the Company as or in connection with any Excluded Securities, for a consideration per share (the " **New Issuance Price** ") less than a price (the " **Applicable Price** ") equal to the Exercise Price in effect immediately prior to such issue or sale or deemed issuance or sale (the foregoing a " **Dilutive Issuance** "), then immediately after such Dilutive Issuance, the Exercise Price then in effect shall be reduced to an amount equal to the New Issuance Price. For purposes of determining the adjusted Exercise Price under this Section 2(a), the following shall be applicable:

(i) Issuance of Options. If the Company in any manner grants or sells any Options and the lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Option or upon conversion, exercise or exchange of any Convertible Securities issuable upon exercise of any such Option is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the granting or sale of such Option for such price per share. For purposes of this Section 2(a)(i), the "lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Options or upon conversion, exercise or exchange of any Convertible Securities issuable upon exercise of any such Option" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the granting or sale of the Option, upon exercise of the Option and upon conversion, exercise or exchange of any Convertible Security issuable upon exercise of such Option less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the granting or sale of such Option, upon exercise of such Option and upon conversion exercise or exchange of any Convertible Security issuable upon exercise of such Option. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock or of such Convertible Securities upon the exercise of such Options or upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities.

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(ii) Issuance of Convertible Securities. If the Company in any manner issues or sells any Convertible Securities and the lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the issuance or sale of such Convertible Securities for such price per share. For the purposes of this Section 2(a)(ii), the "lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the issuance or sale of the Convertible Security and upon conversion, exercise or exchange of such Convertible Security less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the issuance or sale of such Convertible Security and upon conversion, exercise or exchange of such Convertible Security. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities, and if any such issue or sale of such Convertible Securities is made upon exercise of any Options for which adjustment of this Warrant has been or is to be made pursuant to other provisions of this Section 2(a), no further adjustment of the Exercise Price shall be made by reason of such issue or sale.

(iii) Change in Option Price or Rate of Conversion. If the purchase price provided for in any Options, the additional consideration, if any, payable upon the issue, conversion, exercise or exchange of any Convertible Securities, or the rate at which any Convertible Securities are convertible into or exercisable or exchangeable for shares of Common Stock increases or decreases at any time, the Exercise Price in effect at the time of such increase or decrease shall be adjusted to the Exercise Price, which would have been in effect at such time had such Options or Convertible Securities provided for such increased or decreased purchase price, additional consideration or increased or decreased conversion rate, as the case may be, at the time initially granted, issued or sold. For purposes of this Section 2(a)(iii), if the terms of any Option or Convertible Security that was outstanding as of the Subscription Date are increased or decreased in the manner described in the immediately preceding sentence, then such Option or Convertible Security and the shares of Common Stock deemed issuable upon exercise, conversion or exchange thereof shall be deemed to have been issued as of the date of such increase or decrease. No adjustment pursuant to this Section 2(a) shall be made if such adjustment would result in an increase of the Exercise Price then in effect.

(iv) Calculation of Consideration Received. In case any Option is issued in connection with the issue or sale of other securities of the Company, together comprising one integrated transaction, (x) the Options will be deemed to have been issued for the Option Value of such Options and (y) the other securities issued or sold in such integrated transaction shall be deemed to have been issued or sold for the difference of (I) the aggregate consideration received by the Company less any consideration paid or payable by the Company pursuant to the terms of such other securities of the Company, less (II) the Option Value. If any shares of Common Stock, Options or Convertible Securities are issued or sold or deemed to have been issued or sold for cash, the consideration other than cash received therefor will be deemed to be the net amount received by the Company therefor. If any shares of Common Stock, Options or Convertible Securities are issued or sold for a consideration other than cash, the amount of such consideration received by the Company will be the fair value of such consideration, except where such consideration consists of publicly traded securities, in which case the amount of consideration received by the Company will be the Closing Sale Price of such publicly traded securities on the date of receipt. If any shares of Common Stock, Options or Convertible Securities are issued to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving entity, the amount of consideration therefor will be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be. The fair value of any consideration other than cash or publicly traded securities will be determined jointly by the Company and the Required Holders. If such parties are unable to reach agreement within ten (10) days after the occurrence of an event requiring valuation (the "**Valuation Event**"), the fair value of such consideration will be determined within five (5) Business Days after the tenth (10<sup>th</sup>) day following the Valuation Event by an independent, reputable appraiser jointly selected by the Company and the Required Holders. The determination of such appraiser shall be final and binding upon all parties absent manifest error and the fees and expenses of such appraiser shall be borne by the Company.

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(v) Record Date. If the Company takes a record of the holders of shares of Common Stock for the purpose of entitling them (A) to receive a dividend or other distribution payable in shares of Common Stock, Options or in Convertible Securities or (B) to subscribe for or purchase shares of Common Stock, Options or Convertible Securities, then such record date will be deemed to be the date of the issuance or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be.

(vi) No Readjustments. For the avoidance of doubt, in the event the Exercise Price has been adjusted pursuant to this Section 2(a) and the Dilutive Issuance that triggered such adjustment does not occur, is not consummated, is unwound or is cancelled after the facts for any reason whatsoever, in no event shall the Exercise Price be readjusted to the Exercise Price that would have been in effect if such Dilutive Issuance had not occurred or been consummated.

(b) Exercise Floor Price. No adjustment to the Exercise Price pursuant to Section 2 of this Warrant shall cause the Exercise Price to be less than \$0.17 (the "**Exercise Floor Price**"). For the avoidance of doubt, if a Dilutive Issuance would cause the Exercise Price to be lower than the Exercise Floor Price but for the immediately preceding sentence, then the Exercise Price shall be equal to the Exercise Floor Price.

(c) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant, with the prior written consent of the Required Holders, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

(d) Adjustment Upon Subdivision or Combination of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(d) shall become effective at the close of business on the date the subdivision or combination becomes effective.

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(e) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to this Section 2, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the adjusted number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment (without regard to any limitations on exercise contained herein).

(f) Other Events. If any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares, as mutually determined by the Company's Board of Directors and the Required Holders, so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(f) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. From the Subscription Date through and including the Expiration Date 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, options, evidence of indebtedness or any other assets 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 or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution ( provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

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#### 4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. From the Subscription Date and through and including the Expiration Date, in addition to any adjustments pursuant to Section 2 above, if at any time the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right held similarly in abeyance) to the same extent as if there had been no such limitation).

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(b) **Fundamental Transactions**. From the Subscription Date and through and including the Expiration Date, the Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes 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 4(b) pursuant to written agreements in form and substance reasonably satisfactory to the Required Holders and approved by the Required Holders prior to such Fundamental Transaction, including agreements, if so requested by the Holder, to deliver to each holder of the Registered Warrants in exchange for such Registered Warrants a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, an adjusted exercise price equal to the value for the shares of Common Stock reflected by the terms of such Fundamental Transaction, and exercisable for a corresponding number of shares of capital stock 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 reasonably satisfactory to the Required Holders, 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 adjustments to the 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 occurrence or consummation of such Fundamental Transaction). Any security issuable or potentially issuable to the Holder pursuant to the terms of this Warrant on the consummation of a Fundamental Transaction shall be registered and freely tradable by the Holder without any restriction or limitation or the requirement to be subject to any holding period pursuant to any applicable securities laws. Upon the occurrence or consummation of any Fundamental Transaction, and it shall be a required condition to the occurrence or consummation of any Fundamental Transaction that, the Company and the Successor Entity or Successor Entities, jointly and severally, shall succeed to, and the Company shall cause any Successor Entity or Successor Entities to jointly and severally succeed to, and be added to the term "Company" under this Warrant (so that from and after the date of such Fundamental Transaction, each and every provision of this Warrant referring to the "Company" shall refer instead to each of the Company and the Successor Entity or Successor Entities, jointly and severally), and the Company and the Successor Entity or Successor Entities, jointly and severally, may exercise every right and power of the Company prior thereto and shall assume all of the obligations of the Company prior thereto under this Warrant with the same effect as if the Company and such Successor Entity or Successor Entities, jointly and severally, had been named as the Company in this Warrant, and, solely at the request of the Holder, if the Successor Entity and/or Successor Entities is a publicly traded corporation whose common stock is quoted on or listed for trading on an Eligible Market, shall deliver (in addition to and without limiting any right under this Warrant) to the Holder in exchange for this Warrant a security of the Successor Entity and/or Successor Entities evidenced by a written instrument substantially similar in form and substance to this Warrant and exercisable for a corresponding number of shares of capital stock of the Successor Entity and/or Successor Entities (the "**Successor Capital Stock**") 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 (such corresponding number of shares of Successor Capital Stock to be delivered to the Holder shall be equal to the greater of (A) the quotient of (i) the aggregate dollar value of all consideration (including cash consideration and any consideration other than cash ("**Non-Cash Consideration**"), in such Fundamental Transaction, as such values are set forth in any definitive agreement for the Fundamental Transaction that has been executed at the time of the first public announcement of the Fundamental Transaction or, if no such value is determinable from such definitive agreement, as determined in accordance with Section 12 with the term "Non-Cash Consideration" being substituted for the term "Exercise Price") that the Holder would have been entitled to receive upon the happening of such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction, had this Warrant been exercised immediately prior to such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction (without regard to any limitations on the exercise of this Warrant) (the "**Aggregate Consideration**") divided by (ii) the per share Closing Sale Price of such Successor Capital Stock on the Trading Day immediately prior to the consummation or occurrence of the Fundamental Transaction and (B) the product of (i) the Aggregate Consideration and (ii) the highest exchange ratio pursuant to which any stockholder of the Company may exchange shares of Common Stock for Successor Capital Stock) (provided, however, to the extent that the Holder's right to receive any such shares of publicly traded common stock (or their equivalent) of the Successor Entity would result in the Holder and its other Attribution Parties exceeding the Maximum Percentage, if applicable, then the Holder shall not be entitled to receive such shares to such extent (and shall not be entitled to beneficial ownership of such shares of publicly traded common stock (or their equivalent) of the Successor Entity as a result of such consideration to such extent) and the portion of such shares shall be held in abeyance for the Holder until such time or times, as its right thereto would not result in the Holder and its other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be delivered such shares to the extent as if there had been no such limitation), and such security shall be reasonably satisfactory to the Holder, and with an identical exercise price to the Exercise Price hereunder (such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting after the consummation or occurrence of such Fundamental Transaction the economic value of this Warrant that was in effect immediately prior to the consummation or occurrence of such Fundamental Transaction, as elected by the Holder solely at its option). Upon occurrence or consummation of the Fundamental Transaction, and it shall be a required condition to the occurrence or consummation of such Fundamental Transaction that, the Company and the Successor Entity or Successor Entities shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the occurrence or consummation of the Fundamental Transaction, as elected by the Holder solely at its option, shares of Common Stock, Successor Capital Stock or, in lieu of the shares of Common Stock or Successor Capital Stock (or other securities, cash, assets or other property purchasable upon the exercise of this Warrant prior to such Fundamental Transaction), such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights), which for purposes of clarification may continue to be shares of Common Stock, if any, that the Holder would have been entitled to receive upon the happening of such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction, had this Warrant been exercised immediately prior to such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction (without regard to any limitations on the exercise of this Warrant), as adjusted in accordance with the provisions of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the occurrence or consummation of any Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities, cash, assets or other property with respect to or in exchange for shares of Common Stock (a "**Corporate Event**"), the Company shall make appropriate provision to insure that, and any applicable Successor Entity or Successor Entities shall ensure that, and it shall be a required condition to the occurrence or consummation of such Corporate Event that, the Holder will thereafter have the right to receive upon exercise of this Warrant at any time after the occurrence or consummation of the Corporate Event, shares of Common Stock or Successor Capital Stock or, if so elected by the Holder, in lieu of the shares of Common Stock (or other securities, cash, assets or other property) purchasable upon the exercise of this Warrant prior to such Corporate Event (but not in lieu of such items still issuable under Sections 3 and 4(a), which shall continue to be receivable on the shares of Common Stock or on the such shares of stock, securities, cash, assets or any other property otherwise receivable with respect to or in exchange for shares of Common Stock), such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights and any shares of Common Stock) which the Holder would have been entitled to receive upon the occurrence or consummation of such Corporate Event or the record, eligibility or other determination date for the event resulting in such Corporate Event, had this Warrant been exercised immediately prior to such Corporate Event or the record, eligibility or other determination date for the event resulting in such Corporate Event (without regard to any limitations on exercise of this Warrant). Provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 4(b) shall apply

similarly and equally to successive Fundamental Transactions and Corporate Events.

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(c) Notwithstanding the foregoing, in the event of Fundamental Transaction, at the request of the Holder delivered at any time commencing on the earliest to occur of (x) the public disclosure of any Fundamental Transaction, (y) the consummation of any Fundamental Transaction and (z) the Holder first becoming aware of any Fundamental Transaction through the date that is ninety (90) days after the public disclosure of the consummation of such Fundamental Transaction by the Company pursuant to a Current Report on Form 8-K filed with the SEC, the Company or the Successor Entity (as the case may be) shall purchase this Warrant from the Holder on the date of such request by paying to the Holder cash in an amount equal to the Black Scholes Value. Payment of such amounts shall be made by the Company (or at the Company's direction) to the Holder on or prior to the later of (x) the second (2nd) Trading Day after the date of such request and (y) the date of consummation of such Fundamental Transaction.

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation or Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, 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, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Registered Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Registered Warrants, 100% of the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Registered Warrants then outstanding (without regard to any limitations on exercise).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 6, if not filed with the SEC, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

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## 7. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. Subject to the terms hereof, if this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender; provided, however, that no Registered Warrants for fractional Warrant Shares shall be given.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

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8. NOTICES. Whenever notice is required to be given under this Warrant, unless otherwise provided herein, such notice shall be given at its last address as it shall appear upon the warrant register of the Company. The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder.

9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of holders of a majority of the Registered Warrants and, so long as the Lead Investor holds any Registered Warrants, the Lead Investor.

10. GOVERNING LAW; JURISDICTION; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. The Company 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 to the Company at its principal executive office and agrees that such service shall constitute good and sufficient service of process and notice thereof. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

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11. CONSTRUCTION; HEADINGS. This Warrant shall be deemed to be jointly drafted by the Company and all the Buyers and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

12. DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within two (2) Business Days of receipt of the Exercise Notice giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and reasonably acceptable to the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

13. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and 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 right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. 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 of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

14. TRANSFER. This Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

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15. **SEVERABILITY**. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s).

16. **DISCLOSURE**. Upon receipt or delivery by the Company of any notice in accordance with the terms of this Warrant, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries (as defined in the Securities Purchase Agreement), the Company shall within one (1) Business Day after any such receipt or delivery publicly disclose such material, nonpublic information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, nonpublic information relating to the Company or its Subsidiaries, the Company so shall indicate to the Holder contemporaneously with delivery of such notice, and in the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries.

17. **COMPANY OPTIONAL REDEMPTION**. If at any time after the date hereof, (i) the Closing Bid Price of the Common Stock is equal to or greater than \$1.75 per share (as adjusted for stock splits, stock combinations and the like occurring from and after the Issuance Date) (the “**Trigger Price**”) for a period of thirty (30) consecutive Trading Days following the applicable date of determination (the thirty (30) consecutive Trading Days on which the condition in this clause (i) is satisfied are referred to herein as the “**Measuring Period**”), (ii) no Equity Conditions Failure shall have occurred, and (iii) the aggregate dollar trading volume (as reported on Bloomberg) of the Common Stock on the applicable Eligible Market for each Trading Day during the Measuring Period exceeds \$225,000 per day (the foregoing conditions in clause (i) through (iii) above, collectively, the “**Redemption Conditions**”), then the Company shall have the right to purchase the entire then-remaining portion of this Warrant from the Holder as set forth below (a “**Company Redemption**”). The Company may exercise its right to purchase the entire then-remaining portion of this Warrant under this Section 17 by delivering (provided that all of the Redemption Conditions are then satisfied), on the first (1st) Trading Day immediately following the satisfaction of all the Redemption Conditions, a written notice thereof by via e-mail to the Holder (the “**Redemption Notice**”) and the date the Holder receives such notice by facsimile is referred to as the “**Redemption Notice Date**”). The Redemption Notice shall be irrevocable. The Redemption Notice shall (1) state the Trading Day selected for the Company Redemption in accordance with this Section 17, which Trading Day shall be at least five (5) Trading Days but not more than sixty (60) Trading Days following the Redemption Notice Date (the “**Redemption Date**”), (2) contain a certification from the Chief Executive Officer of the Company that there has been no Equity Conditions Failure and (3) contain a certification from the Chief Executive Officer of the Company that the Company has simultaneously taken the same action with respect to all of the Other Warrants that are then eligible to be purchased by the Company. On the Redemption Date, the Company shall pay \$0.01 for this Warrant (the “**Redemption Price**”) to the Holder on the Redemption Date by wire transfer of immediately available funds to an account specified by the Holder. Notwithstanding anything contained in this Section 17 to the contrary, if (I) any shares of Common Stock trade for a price less than the Trigger Price on any day Trading Day during the period commencing on the Redemption Notice Date and ending on the Trading Day immediately preceding the Redemption Date; (II) the aggregate dollar trading volume (as reported on Bloomberg) of the Common Stock on the applicable Eligible Market on any day Trading Day during the period commencing on the Redemption Notice Date and ending on the Trading Day immediately preceding the Redemption Date is less than \$225,000; or (III) an Equity Conditions Failure occurs on any day during the period commencing on the Redemption Notice Date and ending on the Redemption Date which has not been waived in writing by the Holder, then, in any case, the applicable Redemption Notice delivered to the Holder shall be null and void ab initio and the Company Redemption shall not occur. If the Company elects to cause a Company Redemption of the entire then-remaining portion of this Warrant pursuant to this Section 17, then it must simultaneously take the same action with respect to all of the Other Warrants that are then eligible to be purchased. Notwithstanding the foregoing, the Holder may exercise all or any portion of this Warrant at any time and from time to time after the Redemption Notice Date until the Holder’s receipt of the Redemption Price from the Company and any such exercise of this Warrant shall not reduce the Redemption Price.

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18. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(a) " **1933 Act** " means the Securities Act of 1933, as amended.

(b) " **Affiliate** " means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that "control" of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(c) " **Alternate Net Number** " means, with respect to any given exercise hereunder, the product of (i) 200% of the applicable Warrant Exercise Percentage of the Initial Warrant Amount and (ii) the quotient obtained by dividing (A) the difference obtained by subtracting (x) the Market Price, from (y) the Exercise Price as of the Subscription Date (as adjusted for stock splits, stock dividends, stock combinations, recapitalizations or other similar events) by (B) the Market Price.

(d) " **Approved Stock Plan** " means any employee benefit plan which has been approved by the Board of Directors of the Company, pursuant to which the Company's securities may be issued to any employee, officer or director for services provided to the Company.

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(e) " **Attribution Parties** " means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Issuance Date, directly or indirectly managed or advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(f) " **Black Scholes Value** " means the value of this Warrant calculated using the greater of the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg, as a put option or a call option, determined as of the day immediately following the public announcement of the applicable Fundamental Transaction, or, if the Fundamental Transaction is not publicly announced, the date the Fundamental Transaction is consummated, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of such date of request, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the day immediately following the public announcement of the applicable Fundamental Transaction, or, if the Fundamental Transaction is not publicly announced, the date the Fundamental Transaction is consummated, (iii) 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 the Fundamental Transaction, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(g) " **Bloomberg** " means Bloomberg Financial Markets.

(h) " **Business Day** " means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(i) " **Closing Bid Price** " and " **Closing Sale Price** " means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

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(j) " **Common Stock** " means (i) the Company's Class A common stock, par value \$0.001 per share, and (ii) any share capital into which such Common Stock shall have been changed or any share capital resulting from a reclassification of such Common Stock.

(k) " **Convertible Securities** " means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock, other than Excluded Securities.

(l) " **Eligible Market** " means the Principal Market, the NYSE MKT LLC, The NASDAQ Global Select Market, The NASDAQ Global Market, The New York Stock Exchange, Inc., the OTC QX market or the OTC QB market.

(m) " **Equity Conditions** " means: (i) on each day during the period beginning one month prior to the applicable date of determination and ending on and including the applicable date of determination all Warrant Shares (assuming a cashless exercise in full of this Warrant) shall be eligible for sale without restriction under Rule 144 (including, without limitation, volume restrictions) and without the need for current public information required by Rule 144(c)(1) (or Rule 144(i)(2), if applicable) and without the need for registration under any applicable federal or state securities laws (disregarding any limitation on exercise of the Warrants); (ii) on each day during the period beginning three months prior to the applicable date of determination and ending on and including the applicable date of determination (the " **Equity Conditions Measuring Period** "), the Common Stock (including all Warrant Shares) is listed or designated for quotation (as applicable) on an Eligible Market and shall not have been suspended from trading on an Eligible Market (other than suspensions of not more than two (2) days and occurring prior to the applicable date of determination due to business announcements by the Company) nor shall delisting or suspension by an Eligible Market be pending or have been threatened either (A) in writing by such Eligible Market or (B) by falling below the minimum listing maintenance requirements of the Eligible Market on which the Common Stock is then listed or designated for quotation (as applicable); (iii) on each day during the Equity Conditions Measuring Period, the Company shall have delivered all shares of Common Stock issuable upon exercise of this Warrant on a timely basis as set forth in Section 1(a) hereof; (iv) any shares of Common Stock to be issued in connection with the event requiring determination may be issued in full without violating Section 1(f) hereof; (v) any shares of Common Stock to be issued in connection with the event requiring determination may be issued in full without violating the rules or regulations of the Eligible Market on which the Common Stock is then listed or designated for quotation (as applicable); (vi) on each day during the Equity Conditions Measuring Period, no public announcement of a pending, proposed or intended Fundamental Transaction shall have occurred which has not been abandoned, terminated or consummated; (vii) the Company shall have no knowledge of any fact that would reasonably be expected to cause the Warrant Shares (assuming a cashless exercise in full of this Warrant) to not be eligible for sale without restriction pursuant to Rule 144 (including, without limitation, volume restrictions) and without the need for current public information required by Rule 144(c)(1) (or Rule 144(i)(2), if applicable) or any applicable state securities laws (disregarding any limitation on exercise of the Warrants); (viii) the Holder shall not be in possession of any material, non-public information provided to any of them by the Company, any of its affiliates or any of their respective employees, officers, representatives, agents or the like; and (ix) on each day during the Equity Conditions Measuring Period, the Company otherwise shall have been in compliance with each, and shall not have breached any, provision, covenant, representation or warranty of the Underwriting Agreement.

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(n) " **Equity Conditions Failure** " means that on any day during the period commencing twenty (20) Trading Days prior to the Redemption Notice Date through the Redemption Date, the Equity Conditions have not been satisfied (or waived in writing by the Holder).

(o) " **Excluded Securities** " means: (i) any shares of Common Stock or standard options issued to directors, officers or employees of the Company for services rendered to the Company in their capacity as such pursuant to an Approved Stock Plan (as defined above), provided that (A) all such issuances (taking into account the shares of Common Stock issuable upon exercise of such options) after the Subscription Date pursuant to this clause (i) do not, in the aggregate, exceed more than 5% of the Common Stock issued and outstanding immediately prior to the Subscription Date in any twelve (12) month period and (B) the exercise price of any such options is not lowered, none of such options are amended to increase the number of shares issuable thereunder and none of the terms or conditions of any such options are otherwise materially changed in any manner that adversely affects the holders of Registered Warrants;, (ii) any shares of Common Stock issued or issuable upon exercise of the Registered Warrants or the Other Warrants; provided, that the terms of such Registered Warrants and Other Warrants are not amended, modified or changed on or after the Subscription Date, (iii) any shares of Common Stock issued or issuable upon exercise of any Options or Convertible Securities which are outstanding on the day immediately preceding the Subscription Date; provided, that the terms of such Options or Convertible Securities are not amended, modified or changed on or after the Subscription Date, or (iv) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that any such issuance shall only be to a Person (or to the equityholders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with or complementary to 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.

(p) " **Expiration Date** " means the date twenty-four (24) months after the Initial Exercisability Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a " **Holiday** "), the next day that is not a Holiday.

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(q) “ **Fundamental Transaction** ” means (A) that the Company shall, directly or indirectly, including through Subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Subject Entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its "significant subsidiaries" (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby all such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of Common Stock, (y) at least 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its Common Stock, (B) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the "beneficial owner" (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their shares of Common Stock without approval of the stockholders of the Company or (C) directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

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(r) " **Group** " means a "group" as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(s) Intentionally Omitted.

(t) " **Initial Warrant Amount** " means the maximum number of Warrant Shares initially issuable upon a cash exercise of this Warrant on the Issuance Date (without regard to any restrictions or limitation on exercise contained herein, including pursuant to Section 1(f)).

(u) " **Lead Investor** " means Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B.

(v) " **Market Price** " means, as of any date, the lower of (i) the lowest Closing Bid Price of the Common Stock on the 10 Trading Days immediately prior to such date and (ii) the lowest Weighted Average Price of the Common Stock on the 10 Trading Days immediately prior to such date.

(w) " **Option Value** " means the value of an Option calculated using the greater of the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg, as a put option or a call option, determined as of (A) the Trading Day prior to the public announcement of the issuance of the applicable Option, if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of the applicable Option as of the applicable date of determination, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of (A) the Trading Day immediately following the public announcement of the applicable Option if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iii) the underlying price per share used in such calculation shall be the highest Weighted Average Price of the Common Stock during the period beginning on the Trading Day prior to the execution of definitive documentation relating to the issuance of the applicable Option and ending on (A) the Trading Day immediately following the public announcement of such issuance, if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(x) " **Options** " means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

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(y) " **Other Warrants** " means the Series A Warrants issued by the Company on the Issuance Date pursuant to the Underwriting Agreement.

(z) " **Parent Entity** " of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or common shares or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Required Holders, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or such entity designated by the Required Holders or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(aa) " **Person** " means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(bb) " **Principal Market** " means The NASDAQ Capital Market.

(cc) " **Required Holders** " means the holders of the Registered Warrants representing at least a majority of the shares of Common Stock underlying the Registered Warrants then outstanding and shall include the Lead Investor so long as the Lead Investor or any of its Affiliates holds any Registered Warrants.

(dd) " **Standard Settlement Period** " means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Eligible Market with respect to the Common Stock as in effect on the date of delivery of the applicable Exercise Notice.

(ee) " **Subject Entity** " means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(ff) " **Successor Entity** " means one or more Person or Persons (or, if so elected by the Holder, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or one or more Person or Persons (or, if so elected by the Holder, the Company or the Parent Entity) with which such Fundamental Transaction shall have been entered into.

(gg) " **Trading Day** " means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(hh) " **Warrant Exercise Percentage** " means, with respect to any exercise of this Warrant, the quotient determined by dividing (x) the number of Warrants being exercised (without any restrictions or limitation on exercise contained herein, including pursuant to Section 1(f)) and (y) the Initial Warrant Amount.

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(ii) " **Weighted Average Price** " means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest closing bid price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

**[Signature Page Follows]**

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**IN WITNESS WHEREOF**, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

**REPROS THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Name:  
Title:

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EXERCISE NOTICE

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS  
WARRANT TO PURCHASE COMMON STOCK

REPROS THERAPEUTICS, INC.

The undersigned holder hereby exercises the right to purchase \_\_\_\_\_ shares of Common Stock (" **Warrant Shares** ") of Repros Therapeutics, Inc., a Delaware corporation (t he " **Company** "), evidenced by the attached Warrant to Purchase Common Stock (the " **Warrant** "). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as: \_\_\_\_\_ a " Cash Exercise " with respect to \_\_\_\_\_ Warrant Shares; and/or \_\_\_\_\_ a "Cashless Exercise" with respect to \_\_\_\_\_ Warrant Shares, resulting in a delivery obligation by the Company to the Holder of \_\_\_\_\_ shares of Common Stock representing the applicable Net Number or Alternate Net Number.

2. Payment of Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$ \_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to Holder, or its designee or agent as specified below, \_\_\_\_\_ shares of Common Stock in accordance with the terms of the Warrant. Delivery shall be made to Holder, or for its benefit, as follows:

Check here if requesting delivery as a certificate to the following name and to the following address:

Issue to: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Check here if requesting delivery by Deposit/Withdrawal at Custodian as follows:

DTC Participant: \_\_\_\_\_

DTC Number: \_\_\_\_\_

Account Number: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_, \_\_\_\_\_

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Name of Registered Holder

By: \_\_\_\_\_

Name:

Title:

Tax ID: \_\_\_\_\_

Facsimile: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

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**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs Computershare Trust Company, N.A. to issue the above indicated number of shares of Common Stock in accordance with the Transfer Agent Instructions dated May \_\_, 2017 from the Company and acknowledged and agreed to by directs Computershare Trust Company, N.A.

**REPROS THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Name:  
Title:

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## REPROS THERAPEUTICS, INC.

## PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK

Warrant No.:

Number of shares of Common Stock: \_\_\_\_\_

Date of Issuance: May \_\_, 2017 (" **Issuance Date** ")

Repros Therapeutics, Inc., a Delaware corporation (the "**Company**"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [HOLDER], the registered holder hereof or its permitted assigns (the "**Holder**"), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, at any time or times on or after May \_\_, 2017 (the "**Initial Exercisability Date**"), but not after 11:59 p.m., New York time, on the Expiration Date, (as defined below), \_\_\_\_\_ (\_\_\_\_\_) fully paid nonassessable shares of Common Stock, subject to adjustment as provided herein (the "**Warrant Shares**"). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this "**Warrant**"), shall have the meanings set forth in Section 18. This Warrant is one of the Warrants to Purchase Common Stock (the "**Registered Warrants**") issued pursuant to (i) Section 1 of that certain Underwriting Agreement, dated as of May \_\_, 2017 (the "**Subscription Date**"), by and among the Company and the underwriter(s) referred to therein, as amended from time to time (the "**Underwriting Agreement**") and (ii) the Company's Registration Statement on Form S-3 (File number 333-197253) (the "**Registration Statement**").

**Notwithstanding anything herein to the contrary, the Aggregate Exercise Price (as defined below) of this Warrant, except for a nominal exercise price of \$0.001 per Warrant Share, was pre-funded to the Company on or prior to the initial Issuance Date and, consequently, no additional consideration (other than the nominal exercise price of \$0.001 per Warrant Share) shall be required to be paid by the Holder to any Person to effect any exercise of this Warrant.**

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1. **EXERCISE OF WARRANT**. (a) **Mechanics of Exercise**. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time or times on or after the Issuance Date, in whole or in part, by (i) delivery of a written notice, in the form attached hereto as Exhibit A (the "**Exercise Notice**"), of the Holder's election to exercise this Warrant and (ii) (A) payment to the Company of an amount equal to the applicable Exercise Price multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the "**Aggregate Exercise Price**") in cash by wire transfer of immediately available funds or (B) if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares. Within one (1) Trading Day following the date on which the Company has received the Exercise Notice, the Company shall transmit by facsimile or electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice to the Holder and the Company's transfer agent (the "**Transfer Agent**"). On or before the earlier of (i) the third (3rd) Trading Day following the date on which the Company has received the Exercise Notice and (ii) the number of Trading Days comprising the Standard Settlement Period following the date of exercise, so long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise) on or prior to the second (2nd) Trading Day following the date on which the Company has received the Exercise Notice (the "**Share Delivery Date**"), the Company shall (X) provided that the Transfer Agent is participating in The Depository Trust Company ("**DTC**") Fast Automated Securities Transfer Program, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, or (Y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any. Upon delivery of the Exercise Notice, assuming that the payment of the aggregate Exercise Price (other than in the case of a Cashless Exercise) is received on or prior to the Share Delivery Date, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is submitted in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue a new Warrant (in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded up to the nearest whole number. The Company shall pay any and all taxes which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company's obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions 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.

(b) **Exercise Price**. For purposes of this Warrant, "**Exercise Price**" means \$[ ]<sup>1</sup> per share, subject to adjustment as provided herein.

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<sup>1</sup> Insert price of common stock in deal

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(c) Company's Failure to Timely Deliver Securities. If the Company shall fail for any reason or for no reason to issue to the Holder on or prior to the Share Delivery Date either (I) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, a certificate for the number of shares of Common Stock to which the Holder is entitled and register such shares of Common Stock on the Company's share register or if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (II) if the Registration Statement on Form S-3 (File number 333-197253), or other applicable effective registration statement under the 1933 Act (the "**Registration Statement**") covering the issuance of the Warrant Shares that are the subject of the Exercise Notice (the "**Unavailable Warrant Shares**") is not available for the issuance or resale of such Unavailable Warrant Shares and the Company fails to promptly (x) so notify the Holder and (y) deliver the Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (II) is hereinafter referred to as a "**Notice Failure**" and together with the event described in clause (I) above, an "**Exercise Failure**"), and if on or after such Trading Day the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of shares of Common Stock issuable upon such exercise that the Holder anticipated receiving from the Company (a "**Buy-In**"), then the Company shall, within three (3) Trading Days after the Holder's request and in the Holder's discretion, either (i) pay cash to the Holder in an amount equal to the Holder's total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (the "**Buy-In Price**"), at which point the Company's obligation to deliver such certificate (and to issue such shares of Common Stock) or credit the Holder's balance account with DTC for such shares of Common Stock shall terminate, or (ii) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit the Holder's balance account with DTC, as applicable, and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of shares of Common Stock, times (B) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable date of delivery of an Exercise Notice and ending on the applicable Share Delivery Date. Nothing shall limit the 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 (or to electronically deliver such shares of Common Stock) upon the exercise of this Warrant as required pursuant to the terms hereof.

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(d) Cashless Exercise. Notwithstanding anything contained herein to the contrary, if a registration statement covering the issuance or resale of the Unavailable Warrant Shares is not available for the issuance or resale of such Unavailable Warrant Shares, the Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the " **Net Number** " of shares of Common Stock determined according to the following formula (a " **Cashless Exercise** "):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A= the total number of shares with respect to which this Warrant is then being exercised.

B= the last Weighted Average Price immediately preceding the time of delivery of the Exercise Notice giving rise to the applicable "cashless exercise", as set forth in the applicable Exercise Notice (to clarify, the "last Weighted Average Price" will be the last Weighted Average Price as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the trading market is open, the prior Trading Day's Weighted Average Price shall be used in this calculation);

C= \$0.001 (as adjusted for stock splits, stock dividends, stock combinations, recapitalizations and similar events).

If shares of Common Stock are issued pursuant to this Section 1(d), the parties acknowledge and agree that in accordance with Section 3(a)(9) of the 1933 Act, such shares of Common Stock shall take on the registered characteristics of this Warrant, and the holding period of this Warrant may be tacked on to the holding period of such shares of Common Stock. Unless the SEC specifically prohibits the foregoing position, the Company agrees not to take any position contrary to this Section 1(d).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 12.

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(f) Limitations on Exercises .

(i) Beneficial Ownership . Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of 4.99% (the " **Maximum Percentage** ") of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other Registered Warrants or Other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(f)(i). For purposes of this Section 1(f)(i), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the " **1934 Act** "). For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other public filing with the Securities and Exchange Commission (the " **SEC** "), as the case may be, (y) a more recent public announcement by the Company or (3) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the " **Reported Outstanding Share Number** "). The Company shall have no obligation to verify or confirm the accordance of such determination. If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder's beneficial ownership, as determined pursuant to this Section 1(f)(i), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the " **Reduction Shares** ") and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Business Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of shares of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the 1934 Act), the number of shares so issued by which the Holder's and the other Attribution Parties' aggregate beneficial ownership exceeds the Maximum Percentage (the " **Excess Shares** ") shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61<sup>st</sup>) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Registered Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the 1934 Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f)(i) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(f)(i) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

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(ii) Intentionally Omitted.

(g) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance upon exercise of this Warrant at least a number of shares of Common Stock equal to 100% of the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of all of this Warrant then outstanding (the "**Required Reserve Amount**" and the failure to have such sufficient number of authorized and unreserved shares of Common Stock, an "**Authorized Share Failure**"), then the Company shall immediately take all action necessary to increase the Company's authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than sixty (60) days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its best efforts to solicit its stockholders' approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding shares of Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C. In the event that upon any exercise of this Warrant, the Company does not have sufficient authorized shares to deliver in satisfaction of such exercise, then unless the Holder elects to void such attempted exercise, the Holder may require the Company to pay to the Holder within three (3) Trading Days of the applicable exercise or attempted exercise, cash in an amount equal to the product of (i) the number of Warrant Shares that the Company is unable to deliver pursuant to this Section 1(g), and (ii) the difference determined by subtracting (x) the Exercise Price then in effect at the time of such exercise or attempted exercise, and (y) the last Weighted Average Price immediately preceding the time of the exercise or attempted exercise (to clarify, the "last Weighted Average Price" will be the last Weighted Average Price as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the trading market is open, the prior Trading Day's Weighted Average Price shall be used in this calculation.

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2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(a)

Adjustment Upon Subdivision or Combination of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(d) shall become effective at the close of business on the date the subdivision or combination becomes effective.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. From the Subscription Date through and including the Expiration Date 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, options, evidence of indebtedness or any other assets 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 or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution ( provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

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#### 4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. From the Subscription Date and through and including the Expiration Date, in addition to any adjustments pursuant to Section 2 above, if at any time the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right held similarly in abeyance) to the same extent as if there had been no such limitation).

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(b) **Fundamental Transactions**. From the Subscription Date and through and including the Expiration Date, the Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes 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 4(b) pursuant to written agreements in form and substance reasonably satisfactory to the Required Holders and approved by the Required Holders prior to such Fundamental Transaction, including agreements, if so requested by the Holder, to deliver to each holder of the Registered Warrants in exchange for such Registered Warrants a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, an adjusted exercise price equal to the value for the shares of Common Stock reflected by the terms of such Fundamental Transaction, and exercisable for a corresponding number of shares of capital stock 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 reasonably satisfactory to the Required Holders, 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 adjustments to the 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 occurrence or consummation of such Fundamental Transaction). Any security issuable or potentially issuable to the Holder pursuant to the terms of this Warrant on the consummation of a Fundamental Transaction shall be registered and freely tradable by the Holder without any restriction or limitation or the requirement to be subject to any holding period pursuant to any applicable securities laws. Upon the occurrence or consummation of any Fundamental Transaction, and it shall be a required condition to the occurrence or consummation of any Fundamental Transaction that, the Company and the Successor Entity or Successor Entities, jointly and severally, shall succeed to, and the Company shall cause any Successor Entity or Successor Entities to jointly and severally succeed to, and be added to the term "Company" under this Warrant (so that from and after the date of such Fundamental Transaction, each and every provision of this Warrant referring to the "Company" shall refer instead to each of the Company and the Successor Entity or Successor Entities, jointly and severally), and the Company and the Successor Entity or Successor Entities, jointly and severally, may exercise every right and power of the Company prior thereto and shall assume all of the obligations of the Company prior thereto under this Warrant with the same effect as if the Company and such Successor Entity or Successor Entities, jointly and severally, had been named as the Company in this Warrant, and, solely at the request of the Holder, if the Successor Entity and/or Successor Entities is a publicly traded corporation whose common stock is quoted on or listed for trading on an Eligible Market, shall deliver (in addition to and without limiting any right under this Warrant) to the Holder in exchange for this Warrant a security of the Successor Entity and/or Successor Entities evidenced by a written instrument substantially similar in form and substance to this Warrant and exercisable for a corresponding number of shares of capital stock of the Successor Entity and/or Successor Entities (the "**Successor Capital Stock**") 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 (such corresponding number of shares of Successor Capital Stock to be delivered to the Holder shall be equal to the greater of (A) the quotient of (i) the aggregate dollar value of all consideration (including cash consideration and any consideration other than cash ("**Non-Cash Consideration**"), in such Fundamental Transaction, as such values are set forth in any definitive agreement for the Fundamental Transaction that has been executed at the time of the first public announcement of the Fundamental Transaction or, if no such value is determinable from such definitive agreement, as determined in accordance with Section 12 with the term "Non-Cash Consideration" being substituted for the term "Exercise Price") that the Holder would have been entitled to receive upon the happening of such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction, had this Warrant been exercised immediately prior to such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction (without regard to any limitations on the exercise of this Warrant) (the "**Aggregate Consideration**") divided by (ii) the per share Closing Sale Price of such Successor Capital Stock on the Trading Day immediately prior to the consummation or occurrence of the Fundamental Transaction and (B) the product of (i) the Aggregate Consideration and (ii) the highest exchange ratio pursuant to which any stockholder of the Company may exchange shares of Common Stock for Successor Capital Stock) (provided, however, to the extent that the Holder's right to receive any such shares of publicly traded common stock (or their equivalent) of the Successor Entity would result in the Holder and its other Attribution Parties exceeding the Maximum Percentage, if applicable, then the Holder shall not be entitled to receive such shares to such extent (and shall not be entitled to beneficial ownership of such shares of publicly traded common stock (or their equivalent) of the Successor Entity as a result of such consideration to such extent) and the portion of such shares shall be held in abeyance for the Holder until such time or times, as its right thereto would not result in the Holder and its other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be delivered such shares to the extent as if there had been no such limitation), and such security shall be reasonably satisfactory to the Holder, and with an identical exercise price to the Exercise Price hereunder (such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting after the consummation or occurrence of such Fundamental Transaction the economic value of this Warrant that was in effect immediately prior to the consummation or occurrence of such Fundamental Transaction, as elected by the Holder solely at its option). Upon occurrence or consummation of the Fundamental Transaction, and it shall be a required condition to the occurrence or consummation of such Fundamental Transaction that, the Company and the Successor Entity or Successor Entities shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the occurrence or consummation of the Fundamental Transaction, as elected by the Holder solely at its option, shares of Common Stock, Successor Capital Stock or, in lieu of the shares of Common Stock or Successor Capital Stock (or other securities, cash, assets or other property purchasable upon the exercise of this Warrant prior to such Fundamental Transaction), such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights), which for purposes of clarification may continue to be shares of Common Stock, if any, that the Holder would have been entitled to receive upon the happening of such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction, had this Warrant been exercised immediately prior to such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction (without regard to any limitations on the exercise of this Warrant), as adjusted in accordance with the provisions of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the occurrence or consummation of any Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities, cash, assets or other property with respect to or in exchange for shares of Common Stock (a "**Corporate Event**"), the Company shall make appropriate provision to insure that, and any applicable Successor Entity or Successor Entities shall ensure that, and it shall be a required condition to the occurrence or consummation of such Corporate Event that, the Holder will thereafter have the right to receive upon exercise of this Warrant at any time after the occurrence or consummation of the Corporate Event, shares of Common Stock or Successor Capital Stock or, if so elected by the Holder, in lieu of the shares of Common Stock (or other securities, cash, assets or other property) purchasable upon the exercise of this Warrant prior to such Corporate Event (but not in lieu of such items still issuable under Sections 3 and 4(a), which shall continue to be receivable on the shares of Common Stock or on the such shares of stock, securities, cash, assets or any other property otherwise receivable with respect to or in exchange for shares of Common Stock), such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights and any shares of Common Stock) which the Holder would have been entitled to receive upon the occurrence or consummation of such Corporate Event or the record, eligibility or other determination date for the event resulting in such Corporate Event, had this Warrant been exercised immediately prior to such Corporate Event or the record, eligibility or other determination date for the event resulting in such Corporate Event (without regard to any limitations on exercise of this Warrant). Provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 4(b) shall apply

similarly and equally to successive Fundamental Transactions and Corporate Events.

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(c) Notwithstanding the foregoing, in the event of Fundamental Transaction, at the request of the Holder delivered at any time commencing on the earliest to occur of (x) the public disclosure of any Fundamental Transaction, (y) the consummation of any Fundamental Transaction and (z) the Holder first becoming aware of any Fundamental Transaction through the date that is ninety (90) days after the public disclosure of the consummation of such Fundamental Transaction by the Company pursuant to a Current Report on Form 8-K filed with the SEC, the Company or the Successor Entity (as the case may be) shall purchase this Warrant from the Holder on the date of such request by paying to the Holder cash in an amount equal to the Black Scholes Value. Payment of such amounts shall be made by the Company (or at the Company's direction) to the Holder on or prior to the later of (x) the second (2nd) Trading Day after the date of such request and (y) the date of consummation of such Fundamental Transaction.

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation or Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, 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, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Registered Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Registered Warrants, 100% of the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Registered Warrants then outstanding (without regard to any limitations on exercise).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 6, if not filed with the SEC, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

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## 7. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. Subject to the terms hereof, if this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender; provided, however, that no Registered Warrants for fractional Warrant Shares shall be given.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

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8. NOTICES. Whenever notice is required to be given under this Warrant, unless otherwise provided herein, such notice shall be given at its last address as it shall appear upon the warrant register of the Company. The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder.

9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the holders of a majority of the Registered Warrants and, so long as the Lead Investor holds any Registered Warrants, the Lead Investor .

10. GOVERNING LAW; JURISDICTION; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. The Company 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 to the Company at its principal executive office and agrees that such service shall constitute good and sufficient service of process and notice thereof. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

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11. CONSTRUCTION; HEADINGS. This Warrant shall be deemed to be jointly drafted by the Company and all the Buyers and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

12. DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within two (2) Business Days of receipt of the Exercise Notice giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and reasonably acceptable to the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

13. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and 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 right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. 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 of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

14. TRANSFER. This Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

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15. SEVERABILITY. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s).

16. DISCLOSURE. Upon receipt or delivery by the Company of any notice in accordance with the terms of this Warrant, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries (as defined in the Securities Purchase Agreement), the Company shall within one (1) Business Day after any such receipt or delivery publicly disclose such material, nonpublic information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, nonpublic information relating to the Company or its Subsidiaries, the Company so shall indicate to the Holder contemporaneously with delivery of such notice, and in the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries.

17. [Intentionally Omitted]

18. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(a) " **1933 Act** " means the Securities Act of 1933, as amended.

(b) " **Affiliate** " means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that "control" of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(c) " **Attribution Parties** " means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Issuance Date, directly or indirectly managed or advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

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(d) " **Black Scholes Value** " means the value of this Warrant calculated using the greater of the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg, as a put option or a call option, determined as of the day immediately following the public announcement of the applicable Fundamental Transaction, or, if the Fundamental Transaction is not publicly announced, the date the Fundamental Transaction is consummated, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of such date of request, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the day immediately following the public announcement of the applicable Fundamental Transaction, or, if the Fundamental Transaction is not publicly announced, the date the Fundamental Transaction is consummated, (iii) 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 the Fundamental Transaction, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(e) " **Bloomberg** " means Bloomberg Financial Markets.

(f) " **Business Day** " means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(g) " **Closing Bid Price** " and " **Closing Sale Price** " means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

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(h) " **Common Stock** " means (i) the Company's Class A common stock, par value \$0.001 per share, and (ii) any share capital into which such Common Stock shall have been changed or any share capital resulting from a reclassification of such Common Stock.

(i) " **Convertible Securities** " means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock, other than Excluded Securities.

(j) " **Eligible Market** " means the Principal Market, the NYSE MKT LLC, The NASDAQ Global Select Market, The NASDAQ Global Market, The New York Stock Exchange, Inc., the OTC QX market or the OTC QB market.

(k) " **Expiration Date** " means the date twenty four (24) months after the Initial Exercisability Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a " **Holiday** "), the next day that is not a Holiday.

(l) " **Fundamental Transaction** " means (A) that the Company shall, directly or indirectly, including through Subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Subject Entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its "significant subsidiaries" (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby all such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of Common Stock, (y) at least 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its Common Stock, (B) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the "beneficial owner" (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their shares of Common Stock without approval of the stockholders of the Company or (C) directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

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(m) " **Group** " means a "group" as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(n) " **Lead Investor** " means Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B.

(o) " **Option Value** " means the value of an Option calculated using the greater of the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg, as a put option or a call option, determined as of (A) the Trading Day prior to the public announcement of the issuance of the applicable Option, if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of the applicable Option as of the applicable date of determination, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of (A) the Trading Day immediately following the public announcement of the applicable Option if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iii) the underlying price per share used in such calculation shall be the highest Weighted Average Price of the Common Stock during the period beginning on the Trading Day prior to the execution of definitive documentation relating to the issuance of the applicable Option and ending on (A) the Trading Day immediately following the public announcement of such issuance, if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

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(p) " **Options** " means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(q) " **Other Warrants** " means the Pre-Funded Warrants issued by the Company on the Issuance Date pursuant to the Underwriting Agreement.

(r) " **Parent Entity** " of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or common shares or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Required Holders, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or such entity designated by the Required Holders or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(s) " **Person** " means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(t) " **Principal Market** " means The NASDAQ Capital Market.

(u) " **Required Holders** " means the holders of the Registered Warrants representing at least a majority of the shares of Common Stock underlying the Registered Warrants then outstanding and shall include the Lead Investor so long as the Lead Investor or any of its Affiliates holds any Registered Warrants.

(v) " **Standard Settlement Period** " means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Eligible Market with respect to the Common Stock as in effect on the date of delivery of the applicable Exercise Notice.

(w) " **Subject Entity** " means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(x) " **Successor Entity** " means one or more Person or Persons (or, if so elected by the Holder, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or one or more Person or Persons (or, if so elected by the Holder, the Company or the Parent Entity) with which such Fundamental Transaction shall have been entered into.

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(y) " **Trading Day** " means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(z) " **Weighted Average Price** " means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest closing bid price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

[Signature Page Follows]

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**IN WITNESS WHEREOF**, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

**REPROS THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Name:  
Title:

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EXERCISE NOTICE

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS  
WARRANT TO PURCHASE COMMON STOCK

REPROS THERAPEUTICS, INC.

The undersigned holder hereby exercises the right to purchase \_\_\_\_\_ shares of Common Stock (" **Warrant Shares** ") of Repros Therapeutics, Inc., a Delaware corporation (t he " **Company** "), evidenced by the attached Warrant to Purchase Common Stock (the " **Warrant** "). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as: \_\_\_\_\_ a " Cash Exercise " with respect to \_\_\_\_\_ Warrant Shares; and/or \_\_\_\_\_ a "Cashless Exercise" with respect to \_\_\_\_\_ Warrant Shares, resulting in a delivery obligation by the Company to the Holder of \_\_\_\_\_ shares of Common Stock representing the applicable Net Number.

2. Payment of Exercise Price. The holder shall pay the Aggregate Exercise Price in the sum of \$ \_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to Holder, or its designee or agent as specified below, \_\_\_\_\_ shares of Common Stock in accordance with the terms of the Warrant. Delivery shall be made to Holder, or for its benefit, as follows:

Check here if requesting delivery as a certificate to the following name and to the following address:

Issue to: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Check here if requesting delivery by Deposit/Withdrawal at Custodian as follows:

DTC Participant: \_\_\_\_\_

DTC Number: \_\_\_\_\_

Account Number: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_, \_\_\_\_\_

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Name of Registered Holder

By:

\_\_\_\_\_  
Name:

Title:

Tax ID: \_\_\_\_\_

Facsimile: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

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**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs Computershare Trust Company, N.A. to issue the above indicated number of shares of Common Stock in accordance with the Transfer Agent Instructions dated May \_\_, 2017 from the Company and acknowledged and agreed to by directs Computershare Trust Company, N.A.

**REPROS THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Name:  
Title:

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[Letterhead of Morgan, Lewis & Bockius LLP]

May 22, 2017

Repros Therapeutics Inc.  
2408 Timberloch Place  
Suite B-7  
The Woodlands, Texas 77380

RE: Repros Therapeutics, Inc., Registration Statement on Form S-3 (File No. 333-197253)

Ladies and Gentlemen:

We have acted as counsel to Repros Therapeutics Inc., a Delaware corporation (the "Company"), in connection with the filing of (i) the registration statement on Form S-3 (Reg. No. 333-197253) initially filed by the Company with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act") on July 3, 2014, as amended by Amendment No. 1 on Form S-3 filed with the Commission on July 16, 2014 and declared effective by the Commission on July 24, 2014, which was subsequently amended by Post-Effective Amendment No. 1 on Form S-3 filed with the Commission on June 14, 2016 and declared effective by the Commission on June 23, 2016 (the Registration Statement, as amended and declared effective by the Commission, the "Registration Statement"), (ii) the preliminary prospectus supplement of the Company dated May 17, 2017, including the accompanying base prospectus (the "Base Prospectus") as contained in the Registration Statement, which was filed by the Company on May 18, 2017 pursuant to Rule 424(b)(5) promulgated under the Securities Act (the "Preliminary Prospectus Supplement"), (iii) the final prospectus supplement of the Company dated May 18, 2017, including the accompanying Base Prospectus, which was filed by the Company with the Commission on May 18, 2017 pursuant to Rule 424(b)(5) promulgated under the Securities Act (such prospectus in the form so filed pursuant to Rule 424(b), the "Prospectus"), relating to the offering and sale by the Company of (i) 2,744,125 shares (the "Shares") of common stock, par value \$0.001 per share, of the Company (the "Common Stock"), (ii) five-year series A warrants to purchase up to an aggregate of 3,742,500 shares of Common Stock at an exercise price of \$0.84 per share (the "Series A Warrants" and the shares of Common Stock underlying the Series A Warrants, the "Series A Warrant Shares"), (iii) two-year series B warrants to purchase up to an aggregate of 2,495,000 shares of Common Stock at an exercise price of \$0.92 per share (the "Series B Warrants" and the shares of Common Stock underlying the Series B Warrants, the "Series B Warrant Shares"), and (iv) two-year pre-funded series C warrants (the "Pre-Funded Warrants" and collectively with the Series A Warrants and the Series B Warrants, the "Warrants") to purchase up to an aggregate of 2,245,875 shares of Common Stock at a nominal exercise price of \$0.001 per share (the "Pre-Funded Warrant Shares" and collectively with the Series A Warrant Shares and the Series B Warrant Shares, the "Warrant Shares" and, collectively with the Shares and the Warrants, the "Securities").

In connection with this letter, we have examined originals, or copies certified or otherwise identified to our satisfaction, of (i) the Company's Restated Certificate of Incorporation, as amended, (ii) the Company's Restated Bylaws, (iii) the Underwriting Agreement, (iv) the Registration Statement, (v) the forms of the agreements evidencing each of the Warrants (the "Warrant Agreements") and (vi) such other documents and records as we deemed appropriate for purposes of the opinions set forth herein.

We have assumed the genuineness of all signatures, the legal capacity of all natural persons, the authenticity of the documents submitted to us as originals, the conformity with the originals of all documents submitted to us as certified, facsimile or photostatic copies and the authenticity of the originals of all documents submitted to us as copies.

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Repros Therapeutics Inc.  
May 22, 2017  
Page 2

Based upon the foregoing, we are of the opinion that the Shares and Warrant Shares have been duly authorized by the Company and, when issued and sold by the Company, and delivered by the Company to, and paid for by, the Underwriters in accordance with the terms of the Registration Statement, the Underwriting Agreement, and, for the Warrant Shares, the applicable Warrant Agreement, will be validly issued, fully paid and non-assessable.

Each Warrant Agreement has been duly authorized by the Company and, when the Warrant Agreements are executed and delivered by the Company pursuant to the Underwriting Agreement, they will constitute the valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms. The opinion regarding enforceability set forth in this paragraph is limited by bankruptcy, fraudulent conveyance, insolvency, moratorium and other laws relating to or affecting creditors' rights generally and general equitable principles.

The opinions expressed herein are limited to the laws of the State of Delaware.

We hereby consent to the use of this opinion as Exhibit 5.1 to a Current Report on Form 8-K to be filed on the date hereof, which shall be incorporated by reference in the Registration Statement, and to the reference to us under the caption "Legal Matters" in the Prospectus included in the Registration Statement. In giving such consent, we do not hereby admit that we are acting within the category of persons whose consent is required under Section 7 of the Securities Act or the rules or regulations of the SEC thereunder.

Very truly yours,

/s/ Morgan, Lewis & Bockius LLP