

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

March 9, 2021
Date of Report (date of earliest event reported)

OpGen, Inc.
(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

001-37367
(Commission File Number)

06-1614015
(I.R.S. Employer
Identification Number)

708 Quince Orchard Road, Suite 220
Gaithersburg, MD 20878
(Address of principal executive offices)(Zip code)

(240) 813-1260
(Registrant's telephone number, including area code)

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

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

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	OPGN	The Nasdaq Capital Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 1.01 Entry into a Definitive Material Agreement

As previously reported, on November 23, 2020, OpGen, Inc. (the “Company”) entered into a Securities Purchase Agreement (the “Purchase Agreement”) with an institutional investor (the “Holder”), pursuant to which the Company issued to the Investor, securities of the Company, including warrants (the “Existing Warrants”) to purchase up to 4,842,615 shares of common stock, par value \$0.01 per share (the “Common Stock”), of the Company (the “Warrant Shares”). The Existing Warrants were exercisable six months after their issuance at an exercise price of \$1.94 per share and expire on the fifth and a half year anniversary of the date of issuance.

On March 9, 2021, the Company entered into a Warrant Exercise Agreement (the “Exercise Agreement”) with the Holder. Pursuant to the Exercise Agreement, in order to induce the Holder to exercise all of the remaining 4,842,615 outstanding Existing Warrants for cash, pursuant to the terms of and subject to beneficial ownership limitations contained in the Existing Warrants, the Company agreed to issue to the Holder, new warrants (the “New Warrants”) to purchase 0.65 shares of Common Stock for each share of Common Stock issued upon such exercise of the remaining 4,842,615 outstanding Existing Warrants pursuant to the Exercise Agreement or an aggregate of 3,147,700 New Warrants. The terms of the New Warrants will be substantially similar to those of the Existing Warrants, except that the New Warrants will have an exercise price of \$3.56. The New Warrants will be immediately exercisable and will expire five years from the date of the Exercise Agreement. The Holder will pay an aggregate of \$314,770 to the Company for the purchase of the New Warrants. The Company expects to receive aggregate gross proceeds before expenses of approximately \$9.71 million from the exercise of all of the remaining 4,842,615 outstanding Existing Warrants held by the Holder and the payment of the purchase price for the New Warrants.

Pursuant to the Exercise Agreement, the Holder has agreed, until the date that no Existing Warrants are held by such Holder (i) not to purchase any shares of Common Stock, other than pursuant to exercises of the Existing Warrants and (ii) not to transfer any Existing Warrants other than to transferees who assume the obligations under the Exercise Agreement.

The Warrant Shares were registered for resale pursuant to a registration statement on Form S-3 (File No. 333-250983), filed with the Securities and Exchange Commission (the “SEC”) under the Securities Act of 1933, as amended (the “Securities Act”), on November 25, 2020, which became effective on December 4, 2020. Pursuant to the terms of the Exercise Agreement, the Company has agreed to file a registration statement to register for resale the shares of Common Stock underlying the New Warrants within 45 days of the final exercise of the Existing Warrants.

In connection with the Exercise Agreement, the Company entered into a financial advisory agreement (the “Letter Agreement”) with A.G.P./Alliance Global Partners (“A.G.P.”), pursuant to which A.G.P. acted as exclusive financial advisor to the Company in this transaction and will receive a cash fee of \$300,000 upon full cash exercise of the Existing Warrants. As additional compensation, A.G.P. will receive a cash fee equal to \$200,000 upon the cash exercise in full of the New Warrants.

Pursuant to the Exercise Agreement, the Company agreed that through May 8, 2021, subject to certain exceptions, not to directly or indirectly, offer, sell, grant any option to purchase, or otherwise dispose of (or announce any offer, sale, grant or any option to purchase or other disposition of) any of its or its subsidiaries’ debt, equity or equity equivalent securities.

The description of terms and conditions of the New Warrants, the Exercise Agreement, and the Letter Agreement set forth herein do not purport to be complete and are qualified in their entirety by reference to the full text of the form of New Warrants, the form of Exercise Agreement, and the Letter Agreement which are attached hereto as Exhibits 4.1, 10.1, and 10.2, respectively, and are incorporated by reference herein.

Item 3.02 Unregistered Sales of Equity Securities

The description of the Existing Warrants and the New Warrants set forth under Item 1.01 is incorporated herein by reference.

The Company will issue the New Warrants and the shares of Common Stock underlying the New Warrants to the Holder in reliance on the exemption from registration provided for under Section 4(a)(2) of the Securities Act. The Company relied on this exemption from registration for private placements based in part on the representations made by the Holder, including the representations with respect to the Holder’s status as an “accredited investor,” as such term is defined in Rule 501(a) of the Securities Act, and the Holder’s investment intent.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

- 4.1 [Form of New Warrant.](#)
 - 10.1 [Form of Warrant Exercise Agreement, dated as of March 9, 2021, by and between OpGen, Inc. and the Holder.](#)
 - 10.2 [Letter Agreement, dated as of March 9, 2021, by and between A.G.P./Alliance Global Partners and OpGen, Inc.](#)
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NEITHER THIS SECURITY NOR THE SECURITIES FOR WHICH THIS SECURITY IS EXERCISABLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS. THIS SECURITY AND THE SECURITIES ISSUABLE UPON EXERCISE OF THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN SECURED BY SUCH SECURITIES.

COMMON STOCK PURCHASE WARRANT

OPGEN, INC.

Warrant Shares: _____

Initial Exercise Date: March [___], 2021

Issue Date: March [___], 2021

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, [_____] or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after March 9, 2021 (the "Initial Exercise Date") and on or prior to 5:00 p.m. (New York City time) on March 9, 2026 (the "Termination Date"), but not thereafter, to subscribe for and purchase from OpGen, Inc., a Delaware corporation (the "Company"), up to [_____] shares of common stock, par value \$0.01 per share (the "Common Stock") (as subject to adjustment hereunder, the "Warrant Shares"). This Warrant was issued pursuant to Section 2.2 of that certain Warrant Exercise Agreement, dated as of March 9, 2021 (the "Agreement Date"), by and between the Company and the Holder (as may be amended, amended and restated, supplemented or otherwise modified from time to time in accordance with its terms, the "Warrant Exercise Agreement") and is one of the several Warrants to purchase Common Stock (together with this Warrant, the "New Warrants") issued pursuant to Section 2.2 of such Warrant Exercise Agreement.

Section 1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in the Warrant Exercise Agreement.

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form annexed hereto (the "Notice of Exercise"). Within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier's check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. Notwithstanding the foregoing, with respect to any Notice(s) of Exercise delivered on or prior to 4:00 p.m. (New York City time) on the Trading Date prior to the Initial Exercise Date, which may be delivered at any time after the time of execution of the Warrant Exercise Agreement, the Company agrees to deliver the Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Initial Exercise Date and the Initial Exercise Date shall be the Warrant Share Delivery Date for purposes hereunder, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by such Warrant Share Delivery Date. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.** "Business Day" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed; provided, however, for clarification, commercial banks shall not be deemed to be authorized or required by law to remain closed due to "stay at home", "shelter-in-place", "non-essential employee" or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in The City of New York generally are open for use by customers on such day.

b) Exercise Price. The exercise price per share of Common Stock under this Warrant shall be \$3.56 subject to adjustment hereunder (the "Exercise Price").

c) Cashless Exercise. If after the six month anniversary of the Issue Date there is no effective registration statement registering, or the prospectus contained therein is not available for the resale of the Warrant Shares, then this Warrant may also be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares 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 Warrant Shares with respect to which this Warrant is then being exercised if such exercise were by means of a cash exercise rather than a cashless exercise.

(B) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of "regular trading hours" on such Trading Day; and

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

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the characteristics of the Warrants being exercised, and the holding period of the Warrant Shares being issued may be tacked on to the holding period of this Warrant. The Company agrees not to take any position contrary to this Section 2(c). Notwithstanding anything to the contrary, without limiting the rights of the Holder to receive cash payments pursuant to Section 2(d)(i) and Section 2(d)(iv) herein, in the event the Company does not have or maintain an effective registration statement, there are no circumstances that would require the Company to make any cash payments or net cash settle the purchase warrants to the holders.

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

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

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

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

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

Notwithstanding anything herein to the contrary, on the Termination Date, this Warrant shall be automatically exercised via cashless exercise pursuant to this Section 2(c).

d) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder’s or its designee’s balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system (“DWAC”) if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) the Warrant Shares are eligible for resale by the Holder without volume or manner-of-sale limitations pursuant to Rule 144 (assuming cashless exercise of the Warrants), and otherwise by physical delivery of a certificate, registered in the Company’s share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earliest of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise, provided that payment of the aggregate Exercise Price (other than in the instance of a cashless exercise) is received by the Company by such date, and (ii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the “Warrant Share Delivery Date”). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, provided that payment of the aggregate Exercise Price (other than in the instance of a cashless exercise) is received by the Company on or prior to the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, “Standard Settlement Period” means the standard settlement period, expressed in a number of Trading Days, on the Company’s primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise.

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

iii. Rescission Rights. If the Company fails to cause Philadelphia Stock Transfer, Inc., located 2320 Haverford Rd., Suite 230, Ardmore, PA 19003, or the then current transfer agent of the Company (the "Transfer Agent") to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

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

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

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

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

e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within one (1) Trading Day confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of the shares of Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

Section 3. Certain Adjustments.

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

b) [RESERVED.]

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

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

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

to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

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

g) Notice to Holder.

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

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the shares of Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the shares of Common Stock, (C) the Company shall authorize the granting to all holders of the shares of Common Stock rights or warrants to subscribe for or purchase any capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the shares of Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the shares of Common Stock are converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 5 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the shares of Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or stock exchange is expected to become effective or close, and the date as of which it is expected that holders of the shares of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or stock exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice and provided, further that no notice shall be required if the information is disseminated in a press release or document filed with the Securities and Exchange Commission. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

iii. Voluntary Adjustments by the Company. The Company may, subject to the rules and regulations of the Trading Market, at any time during the term of this Warrant, reduce the then current Exercise Price to any amount and extend the term of this Warrant for any period of time deemed appropriate by the Board of Directors of the Company, with the prior written consent of the Holder.

Section 4. Transfer of Warrant.

a) Transferability. Subject to compliance with any applicable securities laws and the conditions set forth in Section 4(d) hereof and to the provisions of Section 2.3 of the Warrant Exercise Agreement, this Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

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

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

d) Transfer Restrictions. If, at the time of the surrender of this Warrant in connection with any transfer of this Warrant, the transfer of this Warrant shall not be either (i) registered pursuant to an effective registration statement under the Securities Act and under applicable state securities or blue sky laws or (ii) eligible for resale without volume or manner-of-sale restrictions or current public information requirements pursuant to Rule 144, the Company may require, as a condition of allowing such transfer, that the Holder or transferee of this Warrant, as the case may be, comply with the provisions of Section 2.3 of the Warrant Exercise Agreement.

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

Section 5. Miscellaneous.

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

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

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

d) Authorized Shares.

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

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

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

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

“Action” means any action, suit, inquiry, notice of violation, proceeding or investigation pending or, to the knowledge of the Company, threatened against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign).

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

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

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

h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provision in Section 4.2 of the Warrant Exercise Agreement.

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

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

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

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company, on the one hand, and the Holder, on the other hand.

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

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

(Signature Page Follows)

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

OPGEN, INC.

By: _____

Name:

Title:

NOTICE OF EXERCISE

TO: **OPGEN, INC.**

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

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

in lawful money of the United States; or

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

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

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

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

[SIGNATURE OF HOLDER]

Name of Investing Entity: _____

Signature of Authorized Signatory of Investing Entity: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Date: _____

ASSIGNMENT FORM

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

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

Name: _____
(Please Print)

Address: _____
(Please Print)

Phone Number: _____

Email Address: _____

Dated: _____, _____

Holder's Signature: _____

Holder's Address: _____

WARRANT EXERCISE AGREEMENT

This Warrant Exercise Agreement (this “Agreement”), dated as of March 9, 2021, is by and between OpGen, Inc., a Delaware corporation (the “Company”), and the undersigned holders (the “Holder”) of warrants to purchase shares of the Company’s common stock, par value \$0.01 per share (the “Common Stock”).

WHEREAS, the Holder beneficially owns in the aggregate the number of warrants to purchase Common Stock at a current exercise price of \$1.94 per share that are exercisable until May 25, 2026, as set forth on the Holder’s signature page hereto (the “Existing Warrants”).

WHEREAS, the Holder desires to exercise such Existing Warrants in the amounts set forth on the applicable signature pages hereto and, in consideration of the Holder’s exercise of such Existing Warrants, the Company has agreed to issue the Holder, in addition to the shares of Common Stock to which such exercising Holder is entitled pursuant to the exercise of the Existing Warrants, new warrants in the form attached hereto as Exhibit A (the “New Warrants”) to purchase 0.65 shares of Common Stock for each share of Common Stock issued upon such exercise of such Existing Warrants pursuant to this Agreement. The shares of Common Stock underlying the Existing Warrants are referred to herein as the “Warrant Shares”. The shares of Common Stock underlying the New Warrants are referred to herein as the “New Warrant Shares”.

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

ARTICLE I DEFINITIONS

Section 1.1 Definitions. Capitalized terms not defined in this Agreement shall have the meanings ascribed to such terms in the New Warrants.

ARTICLE II EXERCISE OF EXISTING WARRANTS

Section 2.1 Exercise of Warrants. (a) Subject to the conditions in Section 2(e) of the Existing Warrants, by executing this Agreement, the Company and the Holder hereby agree that the Holder shall be deemed to have exercised the number of Existing Warrants set forth on the signature page hereto at, in accordance with Section 2(d) of the Existing Warrants, an exercise price per share of \$1.94 (the “Exercise Price”), for aggregate cash proceeds to the Company in the amount set forth on the Holder’s signature page hereto, pursuant to the terms of the Existing Warrants. The Holder shall deliver the aggregate cash exercise price for such Existing Warrants to the bank account set forth on the Company’s signature page hereto within two Trading Days after the date hereof and the Company shall deliver the Warrant Shares to the Holder via the Depository Trust Company Deposit or Withdrawal at Custodian system pursuant to the terms of the Existing Warrants, but pursuant to DWAC instructions set forth on the Holder’s signature page hereto. The date of the closing of the exercise of the Existing Warrants shall be referred to as the “Closing Date”. Notwithstanding anything to the contrary contained herein, if the Holder has exercised all of its Existing Warrants on the Closing Date, the provisions of clauses (b) and (c) of this Section 2.1, and the last sentence of Section 2.2, shall not apply to the Holder.

(b) After the Closing Date, if and whenever the Holder, together with its Attribution Parties (as defined in Section 2(e) of the Existing Warrants), can exercise the Existing Warrants for 500,000 Warrant Shares (the “Threshold Amount”) or more in compliance with the Beneficial Ownership Limitation set forth in the Existing Warrants unless the remaining Warrant Shares are less than 500,000 and then the exercise can be for such remaining number of Warrant Shares, the Holder hereby covenants and agrees to promptly exercise for cash such Threshold Amount of the Existing Warrants by delivery of a Notice of Exercise pursuant to the terms and conditions of the applicable Existing Warrants, at the Exercise Price. The parties hereto further agree that the Holder may voluntarily exercise for cash, from time to time, the Existing Warrants pursuant to the terms and conditions of the applicable Existing Warrants at the Exercise Price, which exercises shall count toward the number of Existing Warrants that are required to be exercised to satisfy the Threshold Amount. As used herein “Attribution Party Pro Rata Percentage” means the percentage calculated by dividing (i) the total number of Existing Warrants held by the Holder, by (ii) the total number of Existing Warrants held by the Holder and its Attribution Parties.

(c) Until the date that no Existing Warrants are held by the Holder (the "Termination Date"), the Holder covenants and agrees (i), not to purchase (including through the exercise of any other warrants to purchase Common Stock held by the Holder) any shares of Common Stock of the Company, other than pursuant to exercises of Existing Warrants and (ii) not to transfer any Existing Warrants other than to transferees who assume the obligations under this Agreement.

(d) Except as expressly set forth herein, all other terms, provisions and conditions of the Existing Warrants shall continue in full force and effect without modification.

Section 2.2 Issuance of New Warrants. Within three (3) Trading Days of the Closing Date, the Company shall deliver to the Holder New Warrants to purchase 0.65 shares of Common Stock for each share of Common Stock that the Holder receives upon the exercise for cash provided in Section 2.1(a) above, having an initial exercise price per share equal to \$3.56 (the "New Warrant Exercise Price"). Within three (3) Trading Days of any other exercise of Existing Warrants for cash, the Company shall deliver to the Holder New Warrants to purchase 0.65 shares of Common Stock for each share of Common Stock that the Holder receives upon such exercise for cash, having an initial exercise price per share equal to the New Warrant Exercise Price. In addition, within three (3) Trading Days of the Closing Date or any other exercise of Existing Warrants, as the case may be, the Holder shall pay to the Company (to the bank account set forth on Exhibit B hereto) a cash payment of \$0.10 for each New Warrant issued to the Holder.

Section 2.3 Legends; Restricted Securities. (a) The Holder understands that the New Warrants and the shares of Common Stock underlying New Warrants are not, and may never be, registered under the Securities Act of 1933, as amended (the "Securities Act"), or the securities laws of any state and, accordingly, each certificate, if any, representing such securities shall bear a legend substantially similar to the following:

"THIS SECURITY HAS NOT BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS. THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN "ACCREDITED INVESTOR" AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES."

(b) Certificates evidencing shares of Common Stock underlying the New Warrants shall not contain any legend (including the legend set forth in Section 2.3(a) hereof), (i) while a registration statement covering the resale of such Common Stock is effective under the Securities Act, (ii) following any sale of such Common Stock pursuant to Rule 144, (iii) if such Common Stock is eligible for sale under Rule 144, without the requirement for the Company to be in compliance with the current public information required under Rule 144 as to such Common Stock and without volume or manner-of-sale restrictions, (iv) if such Common Stock may be sold under Rule 144 and the Company is then in compliance with the current public information required under Rule 144 as to such Common Stock, or (v) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Securities and Exchange Commission (the “Commission”). The Company shall cause its counsel to issue a legal opinion to the transfer agent promptly after the Delegend Date (as defined below) if required by the Company and/or the transfer agent, or if requested by the Holder, in connection with the removal of the legend hereunder, which opinion shall be in form and substance reasonably acceptable to the Holder. If such Common Stock may be sold under Rule 144 without the requirement for the Company to be in compliance with the current public information required under Rule 144, if such Common Stock may be sold under Rule 144 and the Company is then in compliance with the current public information required under Rule 144 as to such Common Stock, or if such legend is not otherwise required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission) then such Common Stock shall be issued free of all legends. The Company agrees that following the Delegend Date or at such time as such legend is no longer required under this Section 2.3(b), it will, no later than two (2) Trading Days following the delivery by the Holder to the Company or the transfer agent of a certificate representing the Common Stock underlying the New Warrants issued with a restrictive legend (such second Trading Day, the “Legend Removal Date”), deliver or cause to be delivered to the Holder a certificate representing such shares that is free from all restrictive and other legends or, at the request of the Holder shall credit the account of the Holder’s prime broker with the Depository Trust Company System as directed by the Holder. The Company may not make any notation on its records or give instructions to the transfer agent that enlarge the restrictions on transfer set forth in this Section 2.3(b). “Delegend Date” means the earliest of the date that (a) a registration statement with respect to the Common Stock has been declared effective by the Commission, (b) all of the Common Stock has been sold pursuant to Rule 144 or may be sold pursuant to Rule 144 without the requirement for the Company to be in compliance with the current public information required under Rule 144 and without volume or manner-of-sale restrictions or (c) following the six (6) month anniversary of (I) the issuance date of the applicable New Warrant if a New Warrant is exercised pursuant to a cashless exercise or (II) the date of the related cash exercise of the New Warrants provided, in each case that the applicable holder of the New Warrants or the Common Stock, as the case may be, is not an Affiliate of the Company, the Company is in compliance with the current public information required under Rule 144 (“Current Public Information Requirement”) and all such Common Stock may be sold pursuant to Rule 144 or an exemption from registration under Section 4(a)(1) of the Securities Act without volume or manner-of-sale restrictions; provided, further, however, that if the Company fails to comply with the Current Public Information Requirement at any time following the applicable six (6) month anniversary set forth above and prior to the date that is six (6) months thereafter, the Company shall promptly provide notice to the Holder and the Holder undertakes not to sell such Common Stock pursuant to Rule 144 until the Company notifies the Holder that it has regained compliance with the Current Public Information Requirement; and provided further, that if a delegending is in effect solely as the result of the effectiveness of a registration statement covering the resale of any Common Stock, the Holder undertakes not to sell any such Common Stock if the Holder is notified or otherwise becomes aware that such registration statement has been withdrawn or suspended, contains a material misstatement or omission or has become stale. The Holder agrees with the Company that the Holder will sell or transfer any New Warrants or shares of Common Stock underlying New Warrants pursuant to either the registration requirements of the Securities Act, including any applicable prospectus delivery requirements, or an exemption therefrom, and that if such securities are sold pursuant to a registration statement, they will be sold in compliance with the plan of distribution set forth therein, and acknowledges that the removal of the restrictive legend from certificates representing any such securities as set forth in this Section 2.3 or otherwise is predicated upon the Company’s reliance upon this understanding.

Section 2.4 Registration. During any time in which the Company is unable to keep the Registration Statement effective and available despite its commercially reasonable efforts, notwithstanding anything to the contrary contained in this Agreement, the Holder shall not be required to exercise any remaining Existing Warrants under this Agreement and the Holder shall not be restricted by the provisions of clause (i) of Section 2.1(c) above. As soon as practicable (and in any event within 45 calendar days of the full exercise by the Holder of all the outstanding Existing Warrants (the “Final Exercise Date”)), the Company shall file a registration statement on Form S-3 or Form S-1 (the “New Registration Statement”) providing for the resale by the Holder of the New Warrant Shares issued and issuable upon exercise of the New Warrants. The Company shall use commercially reasonable efforts to cause such registration to become effective within 90 days following the Final Exercise Date and to keep such registration statement effective at all times until the Holder no longer owns the New Warrants or any New Warrant Shares issuable upon exercise thereof. Notwithstanding the foregoing, in the event Final Exercise Date occurs at such a time when the filing of the New Registration Statement cannot be filed under SEC rules and regulations until such time as the Company files its 10-K (as defined below) or the SEC informs the Company that it will review the New Registration Statement, the time periods set forth herein shall be tolled until such time as the Company files its Annual Report on Form 10-K for the fiscal year ended December 31, 2020 (the “10-K”).

Section 2.5 Filing of Form 8-K. Prior to 9:00 am ET on March 10, 2021, the Company shall issue a Current Report on Form 8-K, reasonably acceptable to the Holder disclosing the material terms of the transactions contemplated hereby, which shall include this form of Agreement (the “8-K Filing”). From and after the issuance of the 8-K Filing, the Company represents to the Holder that it shall not be in possession of any material, nonpublic information received from the Company, any of its Subsidiaries or any of their respective officers, directors, employees or agents, that is not disclosed in the 8-K Filing. In addition, effective upon the filing of the 8-K Filing, the Company acknowledges and agrees that any and all confidentiality or similar obligations under any agreement, whether written or oral, between the Company, any of its Subsidiaries or any of their respective officers, directors, employees or agents, on the one hand, and the Holder or any of its affiliates, on the other hand, shall terminate. The Company shall not, and shall cause each of its Subsidiaries and its and each of their respective officers, directors, employees and agents, not to, provide the Holder with any material, nonpublic information regarding the Company or any of its Subsidiaries from and after the date hereof without the express prior written consent of the Holder. To the extent that the Company, any of its Subsidiaries or any of their respective officers, directors, employees or agents, delivers any material, non-public information to the Holder without the Holder’s consent, the Company hereby covenants and agrees that the Holder shall not have any duty of confidentiality with respect to, or a duty not to trade on the basis of, such material, non-public information.

ARTICLE III REPRESENTATIONS AND WARRANTIES

Section 3.1 Representations and Warranties of the Company. The Company hereby makes the representations and warranties set forth below to the Holder that as of the date of its execution of this Agreement and agrees to the covenants set forth below:

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

(b) Organization. The Company is a duly organized and validly existing corporation in good standing under the laws of the State of Delaware.

(c) Registration Statement. The Warrant Shares are registered for issuance on a Registration Statement on Form S-3 (File No. 333-250983) (the “Registration Statement”) and the Company knows of no reasons why such registration statement shall not remain available for the issuance of such Warrant Shares for the foreseeable future. The Company shall use commercially reasonable efforts to keep the Registration Statement effective and available for the issuance of the Warrant Shares underlying the Existing Warrants until all Existing Warrants are exercised. During any time in which the Company is unable to keep the Registration Statement effective and available despite its commercially reasonable efforts, notwithstanding anything to the contrary contained in this Agreement, the Holder shall not be required to exercise any remaining Existing Warrants under this Agreement and the Holder shall not be restricted by the provisions of clause (i) of Section 2.1(c) above.

(d) No Conflicts. The execution, delivery and performance of this Agreement by the Company and the consummation by the Company of the transactions contemplated hereby do not and will not: (i) conflict with or violate any provision of the Company’s certificate or articles of incorporation, bylaws or other organizational or charter documents, or (ii) conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, result in the creation of any lien upon any of the properties or assets of the Company, or give to others any rights of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) of, any material agreement, credit facility, debt or other material instrument (evidencing Company debt or otherwise) or other material understanding to which the Company is a party or by which any property or asset of the Company is bound or affected, or (iii) conflict with or result in a violation of any law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority to which the Company is subject (including federal and state securities laws and regulations), or by which any property or asset of the Company is bound or affected.

(e) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by this Agreement and any other information that will be public after the issuance of the 8-K Filing, the Company confirms that neither it nor any other Person acting on its behalf has provided any of Holder or their agents or counsel with any information that it believes constitutes or might constitute material, non-public information. The Company understands and confirms that the Holder will rely on the foregoing representation in effecting transactions in securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Holder regarding the Company and its Subsidiaries, their respective businesses and the transactions contemplated hereby, including but not limited to the disclosure set forth in the SEC Reports, is true and correct in all material respects and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. As used herein, “SEC Reports” means all reports, schedules, forms, statements and other documents required to be filed by the Company with the Commission pursuant to the reporting requirements of the Securities Exchange Act of 1934, as amended, including all exhibits included therein and financial statements, notes and schedules thereto and documents incorporated by reference therein.

(f) Issuance of Securities. The issuance of the New Warrants are duly authorized and, upon issuance in accordance with the terms of this Agreement, the New Warrants shall be validly issued and free from all preemptive or similar rights (except for those which have been validly waived prior to the date hereof), taxes, liens and charges and other encumbrances with respect to the issue thereof. As of the Closing Date, a number of shares of Common Stock shall have been duly authorized and reserved for issuance which equals or exceeds the maximum number of New Warrant Shares issuable upon exercise of the New Warrants (without taking into account any limitations on the exercise of the New Warrants set forth therein). Upon exercise of the New Warrants in accordance with the New Warrants, the New Warrant Shares when issued will be validly issued, fully paid and nonassessable and free from all preemptive or similar rights, taxes, liens, charges and other encumbrances with respect to the issue thereof, with the holders being entitled to all rights accorded to a holder of Common Stock. Assuming the accuracy of each of the representations and warranties set forth in Section 3.2 of this Agreement, the offer and issuance by the Company of the New Warrants is exempt from registration under the Securities Act.

(g) No General Solicitation. Neither the Company, nor any of its Subsidiaries or affiliates, nor any Person acting on its or their behalf, has engaged in any form of general solicitation or general advertising (within the meaning of Regulation D) in connection with the offer or sale of the New Warrants.

(h) No Integrated Offering. None of the Company, its Subsidiaries or any of their affiliates, nor any Person acting on their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would require registration of the issuance of any of the New Warrants or the shares of Common Stock underlying the New Warrants (collectively, the “Securities”) under the Securities Act, whether through integration with prior offerings or otherwise, or cause this offering of the Securities to require approval of shareholders of the Company for purposes of the Securities Act or any applicable shareholder approval provisions, including, without limitation, under the rules and regulations of any exchange or automated quotation system on which any of the securities of the Company are listed or designated for quotation. None of the Company, its Subsidiaries, their affiliates nor any Person acting on their behalf will take any action or steps that would require registration of the issuance of any of the Securities under the Securities Act or cause the offering of any of the Securities to be integrated with other offerings for purposes of any such applicable shareholder approval provisions.

(i) No Disqualification Events. With respect to Securities to be offered and sold hereunder in reliance on Rule 506(b) under the Securities Act (“Regulation D Securities”), none of the Company, any of its predecessors, any affiliated issuer, any director, executive officer, other officer of the Company participating in the offering hereunder, any beneficial owner of 20% or more of the Company’s outstanding voting equity securities, calculated on the basis of voting power, nor any promoter (as that term is defined in Rule 405 under the Securities Act) connected with the Company in any capacity at the time of sale (each, an “Issuer Covered Person” and, together, “Issuer Covered Persons”) is subject to any of the “Bad Actor” disqualifications described in Rule 506(d)(1)(i) to (viii) under the Securities Act (a “Disqualification Event”), except for a Disqualification Event covered by Rule 506(d)(2) or (d)(3). The Company has exercised reasonable care to determine whether any Issuer Covered Person is subject to a Disqualification Event. The Company has complied, to the extent applicable, with its disclosure obligations under Rule 506(e), and has furnished to the Holder a copy of any disclosures provided thereunder.

(j) Issued and Outstanding Shares. As of the date hereof, the Company has issued and outstanding 38,591,876 shares of Common Stock.

Section 3.2 Representations and Warranties of the Holder. The Holder hereby makes the representations and warranties set forth below to the Company that as of the date of its execution of this Agreement.

(a) Due Authorization. The Holder represents and warrants that (i) the execution and delivery of this Agreement by it and the consummation by it of the transactions contemplated hereby have been duly authorized by all necessary action on its behalf and (ii) this Agreement has been duly executed and delivered by the Holder and constitutes the valid and binding obligation of the Holder, enforceable against it in accordance with its terms.

(b) No Conflicts. The Holder represents and warrants that the execution, delivery and performance of this Agreement by the Holder and the consummation by the Holder of the transactions contemplated hereby do not and will not: (i) conflict with or violate any provision of the Holder’s organizational or charter documents, or (ii) conflict with or result in a violation of any agreement, law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority which would interfere with the ability of the Holder to perform its obligations under this Agreement.

(c) Access to Information. The Holder acknowledges that it has had the opportunity to review this Agreement and the SEC Reports and has been afforded (i) the opportunity to ask such questions as it has deemed necessary of, and to receive answers from, representatives of the Company concerning the terms and conditions of the exercise of the Existing Warrants and the merits and risks of investing in the Securities; (ii) access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable it to evaluate its investment; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to the investment. The Holder acknowledges and agrees that neither A.G.P./Alliance Global Partners (the “Advisor”) nor any Affiliate of the Advisor has provided the Holder with any information or advice with respect to the Securities nor is such information or advice necessary or desired. Neither the Advisor nor any Affiliate has made or makes any representation as to the Company or the quality of the securities issued and issuable hereunder and the Advisor and any Affiliate may have acquired non-public information with respect to the Company which the Holder agrees need not be provided to it. In connection with the issuance of the securities hereunder to the Holder, neither the Advisor nor any of its Affiliates has acted as a financial advisor or fiduciary to the Holder.

(d) Holder Status. The Holder represents and warrants that is an “accredited investor” as defined in Rule 501 under the Securities Act.

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

ARTICLE IV MISCELLANEOUS

Section 4.1 Subsequent Equity Sales.

(a) From the date hereof until the earlier of 60 days after the Closing Date (the “Trigger Date”), neither the Company nor any Subsidiaries thereof shall, directly or indirectly, file any registration statement or any amendment or supplement thereto, or cause any registration statement to be declared effective by the Commission, or grant any registration rights to any Person that can be exercised prior to such time as set forth above, other than pursuant to the terms of Section 2.4 hereof; provided, however, that the Company shall be permitted to file a shelf-registration statement on Form S-3 45 days after the Closing Date. From the date hereof until the Trigger Date, the Company shall not, (1) directly or indirectly, offer, sell, grant any option to purchase, or otherwise dispose of (or announce any offer, sale, grant or any option to purchase or other disposition of) any of its or its Subsidiaries’ debt, equity or equity equivalent securities, including without limitation any debt, preferred stock or other instrument or security that is, at any time during its life and under any circumstances, convertible into or exchangeable or exercisable for the Company’s Common Stock or Common Stock Equivalents (as defined below), including, without limitation, any rights, warrants or options to subscribe for or purchase the Company’s Common Stock or directly or indirectly convertible into or exchangeable or exercisable for the Company’s Common Stock at a price which varies or may vary with the market price of the Company’s Common Stock, including by way of one or more reset(s) to any fixed price (any such offer, sale, grant, disposition or announcement being referred to as a “Subsequent Placement”), (2) enter into, or effect a transaction under, any agreement, including, but not limited to, an equity line of credit or “at-the-market” offering, whereby the Company may issue securities at a future determined price or (3) be party to any solicitations, negotiations or discussions with regard to the foregoing. As used herein “Common Stock Equivalents” means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

(b) Notwithstanding the foregoing, this Section 4.1 shall not apply in respect of an Exempt Issuance. “Exempt Issuance” means the issuance of (a) shares of Common Stock or options to employees, officers, directors or consultants of the Company pursuant to any share or option plan duly adopted for such purpose, by a majority of the non-employee members of the Board of Directors of the Company or a majority of the members of a committee of non-employee directors established for such purpose for services rendered to the Company, (b) securities upon the exercise or exchange of or conversion of securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations) or to extend the term of such securities and (c) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the prohibition period in Section 4.1(a) and provided that any such issuance shall only be to a Person (or to the equityholders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

(c) The Holder hereunder was the purchaser under that certain Securities Purchase Agreement, dated February 9, 2021, by and between the Company and the purchaser parties thereto, and hereby waives the application of and restrictions set forth in Section 4.12 of such Securities Purchase Agreement with respect to the transactions contemplated by this Agreement and the ATM Agreement.

Section 4.2 Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be made by email to the email address of the Holder set forth on Holders' signature page.

Section 4.3 Survival. All warranties and representations (as of the date such warranties and representations were made) made herein or in any certificate or other instrument delivered by it or on its behalf under this Agreement shall be considered to have been relied upon by the parties hereto and shall survive the issuance of the New Warrants. This Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of each of the parties; provided however that no party may assign this Agreement or the obligations and rights of such party hereunder without the prior written consent of the other parties hereto.

Section 4.4 Execution. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that both parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile signature page were an original thereof.

Section 4.5 Severability. If any provision of this Agreement is held to be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Agreement shall not in any way be affected or impaired thereby and the parties will attempt to agree upon a valid and enforceable provision that is a reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Agreement.

Section 4.6 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be determined pursuant to Section 5(e) of the New Warrants.

Section 4.7 Entire Agreement. The Agreement, together with the exhibits and schedules thereto, contain the entire understanding of the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into such documents, exhibits and schedules.

Section 4.8 Construction. The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

Section 4.9 Fees and Expenses. Except as expressly set forth herein, each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. The Company shall pay all transfer agent fees, stamp taxes and other taxes and duties levied in connection with the delivery of any Warrant Shares or New Warrant Shares.

(remainder of page intentionally left blank; signature page follows)

IN WITNESS WHEREOF, the undersigned have executed this Warrant Exercise Agreement as of the date first written above.

COMPANY:

OPGEN, INC.

By: /s/ Timothy C. Dec
Name: Timothy C. Dec
Title: Chief Financial Officer

**[HOLDER SIGNATURE PAGES TO OPGEN, INC.
WARRANT EXERCISE AGREEMENT]**

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

Name of Holder: _____

Signature of Authorized Signatory of Holder: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Email Address of Holder: _____

Number of Existing Warrants held: _____

Number of Existing Warrants deemed exercised: _____

Aggregate Exercise Price of Existing Warrants deemed exercised: _____

Warrant Shares underlying Existing Warrants deemed exercised: _____

Instructions for Warrant Shares to be issued upon initial exercise of Existing Warrants: _____

Number of New Warrants to be issued to Holder upon deemed exercise: _____

Address for Delivery of New Warrants for Holder: _____

Exhibit A

New Warrant

Exhibit B

Bank Account and Wire Instructions

March 9, 2021

PERSONAL AND CONFIDENTIAL

A.G.P./Alliance Global Partners
590 Madison Avenue
New York, New York 10022
Attention: David Bocchi

Dear David:

1. OpGen, Inc. (the "Company") hereby retains A.G.P./Alliance Global Partners ("AGP") to serve as financial advisor to the Company in connection with the investment banking and financial advisory services described below for a period ending on March 15, 2021.

2. In such capacity, AGP has provided advice with respect to such financial matters as the Company has requested, including without limitation matters relating to capital raising, whether from institutional, retail or other investors or lenders or from the private placement or exchange of debt instruments, equity securities or equity-linked securities. Each of AGP and the Company agree that AGP's services have been fully performed as of the date hereof. Capitalized terms used herein but not defined herein shall have the meanings ascribed to such terms in that certain Warrant Exercise Agreement, dated as of March 9, 2021, by and between the Company and the Holder named on the signature page thereto.

3. AGP has been retained to serve as financial advisor solely to the Company, and it is agreed that the engagement of AGP has not, and shall not be deemed to be, on behalf of, and is not intended to confer rights or benefits upon any shareholder or creditor of the Company or upon any other person or entity. No one other than the Company is authorized to rely upon this engagement of AGP or any statements, conduct or advice of AGP, and no one other than the Company is intended to be a beneficiary of this engagement. All opinions, advice or other assistance (whether written or oral) given by AGP in connection with this engagement were intended solely for the benefit and use of the Company and will be treated by the Company as confidential, and no opinion, advice or other assistance of AGP shall be used for any other purpose or reproduced, disseminated, quoted or referred to at any time, in any manner or for any purpose, nor shall any public or other references to AGP (or to such opinions, advice or other assistance) be made without the express prior written consent of AGP. The Company hereby acknowledges that AGP is not a fiduciary of the Company. All final decisions with respect to acts of the Company or its affiliates, whether or not made pursuant to or in reliance upon information or advice furnished by AGP hereunder, shall be those of the Company or such affiliates, and AGP shall under no circumstances be liable for any expense incurred or loss suffered by the Company as a consequence of such decisions. The Company understands that in rendering services hereunder AGP has not provided accounting, legal or tax advice and has relied upon the advice of counsel to the Company and other advisors to the Company as to accounting, legal, tax and other matters relating to any transaction contemplated by this letter agreement (the "Agreement").

4. For the services described above, the Company shall pay AGP a cash financial advisory fee of: (i) \$300,000 when all of the Existing Warrants are exercised in full and (ii) \$[200,000] when all of the New Warrants are exercised in full. The financial advisory fee shall be deemed earned when paid and shall be non-refundable. The financial advisory fee is not negotiable and is not subject to any reduction, set-off, counterclaim or refund for any reason or matter whatsoever. In addition, the Company shall reimburse AGP for its reasonable actual out of pocket expenses, including reasonable legal fees and disbursements up to a maximum aggregate amount of \$15,000.

5. The Company agrees that neither AGP, nor any of its affiliates nor any officer, director, employee or agent of AGP or any of its affiliates, nor any person controlling AGP or any of its affiliates, shall have any liability to the Company for or in connection with such engagement except for any such liability for losses, claims, damages, liabilities or expenses incurred by the Company which are finally judicially determined to have resulted primarily from AGP's bad faith or gross negligence.

6. The Company represents and warrants to AGP that this Agreement has been duly authorized and represents the legal, valid, binding and enforceable obligation of the Company.

7. The term of this engagement will terminate immediately upon the payment of the fees set forth in Section 4 hereof. The provisions of Sections 3, 4, 5, 6, 8, 9, 10, and 11 hereof shall survive any expiration or termination of this Agreement.

8. The Company acknowledges and agrees that AGP is a full-service securities firm which may be engaged at various times, either directly or through its affiliates, in various activities including, without limitation, securities trading, investment management, financing and brokerage activities and financial advisory services for companies, governments and individuals. In the ordinary course of these activities, which may conflict with the interests of the Company, AGP and its affiliates from time-to-time may: (i) effect transactions for its own account or the accounts of its clients and hold long or short positions in debt or equity securities or other financial instruments (or related derivative instruments) of the Company or other parties which may be the subject of this engagement; (ii) have had confidential discussions with, and provided information to, clients, potential clients, financial investors or other parties in the Company's industry (including competitors) regarding various market and strategic matters (including potential strategic alternatives or transactions that may involve the Company); and/or (iii) have performed, or sought to perform, various investment banking, financial advisory or other services for clients who may have conflicting interests with respect to the Company.

9. The terms and provisions of this Agreement are solely for the benefit of the Company and AGP and their respective successors, assigns, heirs and personal representatives, and no other person or entity shall acquire or have any right by virtue of this Agreement. The Company and AGP acknowledge and agree that AGP is acting as an independent contractor, and is not a fiduciary of, nor will its engagement hereunder give rise to fiduciary duties to, the Company or the Company's shareholders. This Agreement represents the entire understanding between the Company and AGP with respect to AGP's engagement hereunder, and all prior discussions are merged herein. This Agreement may be executed in two or more counterparts (including fax or electronic counterparts), all of which together will be considered a single instrument. THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO SUCH STATE'S PRINCIPLES OF CONFLICTS OF LAWS, AND MAY BE AMENDED, MODIFIED OR SUPPLEMENTED ONLY BY WRITTEN INSTRUMENT EXECUTED BY EACH OF THE PARTIES HERETO.

10. The parties hereby submit to the jurisdiction of and venue in the federal courts located in New York, New York in connection with any dispute related to this Agreement, any transaction contemplated hereby, or any other matter contemplated hereby. If for any reason jurisdiction and/or venue is unavailable in such federal courts, then the parties hereby submit to the jurisdiction of and venue in the state courts located in such city in connection with any such dispute or matter. In addition, the parties hereby waive any right to a trial by jury with respect to any such dispute or matter.

If the foregoing correctly sets forth the entire understanding and agreement between AGP and the Company, please so indicate in the space provided for that purpose below and return an executed copy to us, whereupon this letter shall constitute a binding agreement as of the date first above written.

[Signature Page Follows]

Very truly yours,

A.G.P./ALLIANCE GLOBAL PARTNERS

By: /s/ Thomas J. Higgins
Name: Thomas J. Higgins
Title: Managing Director

AGREED, as of March 9, 2021:

OPGEN, INC.

By: /s/ Timothy C. Dec
Name: Timothy C. Dec
Title: Chief Financial Officer

[Signature Page to Letter Agreement]

