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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**FORM 8-K**

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**CURRENT REPORT**  
Pursuant to Section 13 or 15(d) of the  
Securities Exchange Act of 1934.

**Date of Report: July 27, 2017 (Date of earliest event reported)**

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**Oragenics, Inc.**

(Exact name of registrant as specified in its charter)

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**FL**  
(State or other jurisdiction  
of incorporation)

**001-32188**  
(Commission File Number)

**59-3410522**  
(IRS Employer  
Identification Number)

**4902 Eisenhower Boulevard, Suite 125**  
**Tampa, FL**  
(Address of principal executive offices)

**33634**  
(Zip Code)

**813-286-7900**  
(Registrant's telephone number, including area code)

**Not Applicable**  
(Former Name or Former Address, if changed since last report)

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

- Written communications pursuant to Rule 425 under the Securities Act (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))

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.

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**Item 1.02 Amendment to Material Agreement.**

As previously disclosed in a Form 8-K filed on May 11, 2017 and July 26, 2017 Oragenics, Inc. (the “Company”) entered into a securities purchase agreement on May 10, 2017 with three accredited investors, to purchase up to \$3.0 million of Series A Convertible Preferred Stock (the “Preferred Stock Financing”). The sale of the Preferred Stock took place in two separate closings and at the first closing which occurred on May 10, 2017, the Company received gross proceeds of approximately \$1.302 million. The second closing occurred on July 25, 2017. In addition, the Company issued warrants to purchase an aggregate of 4,621,037 shares of Common Stock at the first closing and an aggregate of 6,024,124 shares of Common Stock at the second closing (the “Original Warrants”).

Subsequently, on July 27, 2017, the Company and the investors entered into an agreement to amend the Original Warrants (the “Agreement to Amend Common Stock Warrants”) to provide notification and objection requirements with respect to the change of control provisions since the change of control provisions in the Original Warrants had previously caused the Original Warrants to be treated as a derivative liability as opposed to being treated as equity on the Company’s balance sheet. The Original Warrants have been replaced by amended and restated warrants containing such notification and objection requirements (the “Amended and Restated Common Stock Purchase Warrants”) so that the Amended and Restated Common Stock Purchase Warrants will be treated as equity on the Company’s balance sheet. A copy of the Agreement to Amend Common Stock Warrant is attached hereto as Exhibit 10.2 and is incorporated by reference herein. A copy of the form of the Amended and Restated Common Stock Purchase Warrant is attached hereto as Exhibit 4.1 and is incorporated by reference herein.

**Item 3.02 Unregistered Sales of Equity Securities**

Pursuant to the Transactions described in Item 1.02 of this Current Report on Form 8-K, which description is incorporated into this Item 3.02 by reference, on July 27, 2017, the Company offered and sold the securities to “accredited investors” as such term is defined in the Securities Act and in reliance on the exemption from registration afforded by Section 4(2) and Regulation D (Rule 506) under the Securities Act of 1933, as amended (the “Securities Act”) and corresponding provisions of state securities laws. The Amended and Restated Common Stock Purchase Warrants and the Common Stock issuable upon the exercise of the Amended and Restated Common Stock Purchase Warrants have not been registered under the Securities Act and may not be offered or sold in the United States absent registration with the SEC or an applicable exemption from such registration requirements.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
4.1	Form of Amended and Restated Common Stock Purchase Warrant
10.1	Securities Purchase Agreement dated May 10, 2017 (incorporated by reference to Exhibit 10.1 of Form 8-K filed on May 11, 2017).
10.2	Agreement to Amend Common Stock Warrant dated July 27, 2017.

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**SIGNATURES**

In accordance with the requirements of the Exchange Act, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 1<sup>st</sup> day of August 2017.

**ORAGENICS, INC.**  
**(Registrant)**

BY: /s/ Michael Sullivan  
Michael Sullivan  
Chief Financial Officer

**Form of Amended and Restated Common Stock Purchase Warrant**

THIS WARRANT AND ANY SHARES ACQUIRED UPON THE EXERCISE OF THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN EXEMPTION THEREFROM UNDER SUCH ACT AND ANY APPLICABLE STATE SECURITIES LAWS.

This Warrant is issued pursuant to that certain Securities Purchase Agreement dated May 10, 2017 by and among the Company and the other parties signatory thereto (the "Purchase Agreement") and amends, restates and replaces the Common Stock Purchase Warrant issued on [                    ], 2017.

No. [                    ]

CUSIP: [                    ]

**ORAGENICS, INC.**

**AMENDED AND RESTATED COMMON STOCK PURCHASE WARRANT**

Oragenics, Inc., a Florida corporation (together with any corporation which shall succeed to or assume the obligations of Oragenics, Inc. hereunder, the "Company"), hereby certifies that, for value received, [                    ] (the "Holder"), or its assigns, is entitled, subject to the terms set forth below, to purchase from the Company at any time during the Exercise Period (as defined in Section 12 hereof) up to [                    ] fully paid and non-assessable shares of Common Stock (as defined in Section 12 hereof), at a purchase price per share equal to the Exercise Price (as defined in Section 12 hereof). The number of shares of Common Stock for which this Common Stock Purchase Warrant (the "Warrant") is exercisable and the Exercise Price are subject to adjustment as provided herein.

1. **DEFINITIONS.** Terms defined in the Purchase Agreement and not otherwise defined herein are used herein with the meanings so defined. Certain terms are used in this Warrant as specifically defined in Section 12 hereof.

2. **EXERCISE OF WARRANT.**

2.1. **Exercise.** This Warrant may be exercised prior to its expiration pursuant to Section 2.5 hereof by the Holder at any time or from time to time during the Exercise Period, by submitting the form of subscription attached hereto (the "Exercise Notice") duly executed by the Holder, to the Company at its principal office, indicating whether the Holder is electing to purchase a specified number of shares by paying the Aggregate Exercise Price as provided in Section 2.2 or is electing to exercise this Warrant as to a specified number of shares pursuant to the net exercise provisions of Section 2.3. On or before the first Trading Day following the date on which the Company has received the Exercise Notice, the Company shall transmit by facsimile an acknowledgement of confirmation of receipt of the Exercise Notice. This Warrant shall be deemed exercised for all purposes as of the close of business on the day on which the Holder has delivered the Exercise Notice to the Company. The Aggregate Purchase Price, if any, shall be paid by wire transfer to the Company within two (2) Business Days of the date of exercise and prior to the time the Company issues the certificates evidencing the shares issuable upon such exercise. In the event the Warrant is not exercised in full, the Company may, at its expense, require the Holder, after such partial exercise, to promptly return this Warrant to the Company and the Company will

forthwith issue and deliver to or upon the order of the Holder a new Warrant or Warrants of like tenor, in the name of the Holder or as the Holder (upon payment by the Holder of any applicable transfer taxes) may request, calling in the aggregate on the face or faces thereof for the number of shares of Common Stock equal (without giving effect to any adjustment therein) to the number of such shares called for on the face of this Warrant minus the number of such shares (without giving effect to any adjustment therein) for which this Warrant shall have been exercised.

2.2. Payment of Exercise Price by Wire Transfer. If the Holder elects to purchase a specified number of shares by paying the Aggregate Exercise Price, the Holder shall pay such amount by wire transfer of immediately available funds to an account designated in advance by the Company.

2.3. Net Exercise. The Holder may also elect to exercise this Warrant at any time or from time to time, by receiving shares of Common Stock equal to the number of shares determined pursuant to the following formula:

$$X = \frac{Y(A - B)}{A}$$

where,

X = the number of shares of Common Stock to be issued to Holder;

Y = the number of shares of Common Stock as to which this Warrant is to be exercised (as indicated on the Exercise Notice);

A = the volume weighted average price of the Common Stock quoted on the Nasdaq Capital Market or any other U.S. exchange on which the Common Stock is listed, whichever is applicable, as posted by Bloomberg L.P. (or such other reference reasonably relied upon by the Company if not so published) for the five (5) Trading Days ending on the Trading Day immediately preceding the date of exercise; and

B = the Exercise Price.

2.4. Antitrust Notification. If the Holder determines, in its sole judgment upon the advice of counsel, that an exercise of this Warrant pursuant to the terms hereof would be subject to the provisions of the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended (the "HSR Act"), the Company shall file, within seven (7) Business Days after receiving notice from the Holder of the applicability of the HSR Act and a request to so file, with the United States Federal Trade Commission (the "FTC") and the United States Department of Justice (the "DOJ") the notification and report form and any supplemental information required to be filed by it pursuant to the HSR Act in connection with the exercise of this Warrant. Any such notification and report form and supplemental information will be in full compliance with the requirements of the HSR Act. The Company will furnish to the Holder promptly (but in no event more than five (5) Business Days) such information and assistance as the Holder may reasonably request in connection with the preparation of any filing or submission required to be filed by the Holder under the HSR Act. The Company shall respond promptly after receiving any inquiries or requests for additional information from the FTC or the DOJ (and in no event more than three (3) Business Days after receipt of such inquiry or request). The Company shall keep the Holder apprised periodically and at the Holder's request of the status of any communications with, and any inquiries or requests for additional information from, the FTC or the DOJ. The Company shall bear all filing or other fees required to be paid by the Company and the Holder (or the "ultimate parent entity" of the Holder, if any) under the HSR Act or any other applicable law in connection with such filings and all costs and expenses (including, without limitation, reasonable attorneys' fees and expenses) incurred by the Company and the Holder in connection with the preparation of such filings and responses to inquiries or requests. In the event that this Section 2.4 is applicable to any exercise of this Warrant, the purchase by

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the Holder of the Exercise Shares subject to such exercise, and the payment by the Holder of the Exercise Price therefor, shall be subject to the expiration or earlier termination of the waiting period under the HSR Act (with the exercise date of this Warrant being deemed to be the date immediately following the date of such expiration or early termination).

2.5. Termination. This Warrant shall terminate upon the earlier to occur of (i) exercise in full or (ii) the expiration of the Exercise Period.

3. REGISTRATION RIGHTS. The Holder of this Warrant has certain rights to require the Company to register its resale of the Warrant Shares under the Securities Act and any blue sky or securities laws of any jurisdictions within the United States at the time and in the manner specified in the Registration Rights Agreement, dated as of May 10, 2017, as amended and in effect from time to time.

#### 4. DELIVERY OF STOCK CERTIFICATES ON EXERCISE

4.1. Delivery of Exercise Shares. As soon as practicable after any exercise of this Warrant and in any event within three (3) Trading Days thereafter (such date, the "Exercise Share Delivery Date"), the Company shall, at its expense (including the payment by it of any applicable issue or stamp taxes), cause to be issued in the name of and delivered to the Holder, or as the Holder may direct, a certificate or certificates evidencing the number of fully paid and nonassessable shares of Common Stock (or Other Securities, as applicable) (which number shall be rounded up to the nearest whole share in the event any fractional share may otherwise be issuable upon such exercise) to which the Holder shall be entitled on such exercise, in such denominations as may be requested by the Holder, which certificate or certificates shall be free of restrictive and trading legends provided that the shares subject to the Exercise Notice are included in an effective Registration Statement or all applicable requirements of Rule 144, including the holding period thereof, are met. In lieu of delivering physical certificates for the shares of Common Stock (or Other Securities) issuable upon any exercise of this Warrant, provided the Company's transfer agent is participating in the Depository Trust Company ("DTC") Fast Automated Securities Transfer ("FAST") program or a similar program and either (A) there is an effective registration statement permitting the issuance of the shares to or resale of the shares by the Holder or (B) the shares are eligible for resale without volume or manner-of-sale limitations pursuant to Rule 144 (it being understood that if both (A) and (B) are not satisfied, then such shares of Common Stock (or Other Securities) shall be kept in book entry form by the Company's transfer agent), upon request of the Holder, the Company shall cause its transfer agent to electronically transmit such shares of Common Stock (or Other Securities) issuable upon exercise of this Warrant to the Holder (or its designee), by crediting the account of the Holder's (or such designee's) broker with DTC through its Deposit Withdrawal Agent Commission system (provided that the same time periods herein as for stock certificates shall apply) as instructed by the Holder (or its designee). The Company understands that a delay in the delivery of the Exercise Shares after the Exercise Share Delivery Date could result in economic loss to the Holder. As compensation to the Holder for such loss, the Company agrees to pay (as liquidated damages and not as a penalty) to the Holder for late issuance of Exercise Shares upon exercise of this Warrant the proportionate amount of \$10 per Trading Day (increasing to \$20 per Trading Day after the fifth (5th) Trading Day) after the Exercise Share Delivery Date for each \$1,000 of Aggregate Exercise Price for which this Warrant is exercised which are not timely delivered. The Company shall pay any payments incurred under this Section 4 in immediately available funds upon demand. Furthermore, in addition to any other remedies which may be available to the Holder, in the event that the Company fails for any reason to effect delivery of the Exercise Shares by the Exercise Share Delivery Date, the Holder may revoke all or part of the relevant Warrant exercise by delivery of a notice to such effect to the Company, whereupon the Company and the Holder shall each be restored to their respective positions immediately prior to the exercise of the relevant portion of this Warrant, except that the liquidated damages described above shall be payable through the date notice of revocation or rescission is given to the Company.

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4.2. Compensation for Buy-In on Failure to Timely Deliver Exercise Shares. In addition to any other rights available to the Holder, if the Company fails to cause its transfer agent to transmit to the Holder Exercise Shares pursuant to an exercise on or before the Exercise Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Exercise 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 Exercise 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 Exercise 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.

4.3. Charges, Taxes and Expenses. Issuance of Exercise 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 Exercise Shares, all of which taxes and expenses shall be paid by the Company, and such Exercise 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 Exercise 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 Exercise Notice.

## 5. ADJUSTMENT FOR DIVIDENDS, DISTRIBUTIONS AND RECLASSIFICATIONS.

5.1. Distribution of Assets; Spin-Off. If the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a Spin-Off, dividend, reclassification, corporate rearrangement or other similar transaction, but excluding cash dividends which are prohibited by Section 5.2 hereof and excluding stock dividends or stock split adjustments in respect of which are provided for in Section 7 hereof) (a "Distribution"), at any time on or after the First Closing Date (as defined in the Purchase Agreement), then, in each such case:

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(a) (i) the Exercise Price in effect immediately prior to the close of business on the record date fixed for the determination of holders of Common Stock entitled to receive the Distribution shall be reduced, effective as of the close of business on such record date, to a price determined by multiplying such Exercise Price by a fraction of which:

(A) the numerator shall be the Market Price of the Common Stock on the Trading Day immediately preceding such record date minus the Fair Market Value of the Distribution applicable to one share of Common Stock, and

(B) the denominator shall be the Market Price of the Common Stock on the Trading Day immediately preceding such record date;

and (ii) the number of Warrant Shares obtainable upon exercise of this Warrant shall be increased to a number of shares equal to the number of shares of Common Stock obtainable immediately prior to the close of business on the record date fixed for the determination of holders of Common Stock entitled to receive the Distribution multiplied by the reciprocal of the fraction set forth in the immediately preceding clause (i) of this Section 5.1(a); and

(b) Notwithstanding the provisions of the foregoing clause (a), in the event of a Spin-Off in which the Distribution is of common stock of a subsidiary of the Company, then (i) the Exercise Price in effect immediately prior to the close of business on the record date fixed for the determination of holders of Common Stock entitled to receive such Distribution shall be reduced, effective as of the close of business on such record date, to a price determined by multiplying such Exercise Price by a fraction of which:

(A) the numerator shall be the Market Price of the Common Stock on the Trading Day immediately preceding such record date minus the Fair Market Value of the Distribution applicable to one share of Common Stock, and

(B) the denominator shall be the Market Price of the Common Stock on the Trading Day immediately preceding such record date;

and (ii) the Holder shall receive an additional warrant to purchase common stock of such company, the terms of which shall be identical to those of this Warrant, except that such warrant shall be exercisable into the number of shares of common stock of such company that would have been issuable or distributed to the Holder of this Warrant pursuant to the Distribution had the Holder exercised this Warrant for cash for the full number of shares of Common Stock on the face of this Warrant (notwithstanding the requirement that this Warrant be exercised pursuant to the net exercise provisions of Section 2.3) immediately prior to such record date and with an exercise price equal to the amount by which the Exercise Price of this Warrant was decreased with respect to the Distribution pursuant to the terms of the preceding clause (i) of this Section 5.1(b).

5.2. Cash Dividends. For so long as any Warrants are outstanding, no cash dividend shall be declared or paid or set aside for payment on any shares of the Company's Common Stock or any parity or junior stock thereto.

5.3. Other Events. If any event occurs of the type contemplated by the provisions of this Section 5 but not expressly provided for by such provisions, then the Company's board of directors (the "Board of Directors"), acting in good faith and consistent with their fiduciary duties, shall make an appropriate adjustment in the Exercise Price and the number of shares of Common Stock obtainable upon exercise of this Warrant so as to protect the rights of the Holder.



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## 6. ADJUSTMENT FOR REORGANIZATION, CONSOLIDATION, MERGER, ETC.

6.1. Certain Adjustments. In case at any time or from time to time on or after the First Closing Date (as defined in the Purchase Agreement), the Company shall (i) effect a capital reorganization, reclassification or recapitalization, (ii) consolidate with or merge into any other Person, or (iii) transfer all or substantially all of its properties or assets to any other Person under any plan or arrangement contemplating the dissolution of the Company, then in each such case, this Warrant shall thereafter be exercisable for the same kind and amounts of securities (including shares of stock) or other assets, or both, which were issuable or distributable to the holders of outstanding Common Stock upon such reorganization, reclassification, recapitalization, consolidation, merger or transfer, in respect of that number of shares of Common Stock for which this Warrant could have been exercised immediately prior to such reorganization, reclassification, recapitalization, consolidation, merger or transfer; and, in any such case, appropriate adjustments (as determined in good faith by the Board of Directors of the Company) shall be made to assure that the provisions set forth herein shall thereafter be applicable, as nearly as reasonably may be practicable, in relation to any securities or other assets thereafter deliverable upon the exercise of this Warrant.

6.2. Continuation of Terms. Upon any reorganization, consolidation, merger or transfer (and any dissolution following any transfer) referred to in this Section 6, this Warrant shall continue in full force and effect and the terms hereof shall be applicable to the shares of stock and other securities and property receivable on the exercise of this Warrant after the consummation of such reorganization, consolidation or merger or the effective date of dissolution following any such transfer, as the case may be, and shall be binding upon the issuer of any such stock or other securities, including, in the case of any such transfer, the Person acquiring all or substantially all of the properties or assets of the Company, whether or not such Person shall have expressly assumed the terms of this Warrant as provided in Section 8 hereof.

## 7. ADJUSTMENTS FOR STOCK EVENTS AND ISSUANCE OF OTHER SECURITIES.

7.1. General. If at any time on or after the First Closing Date (as defined in the Purchase Agreement) there shall occur any stock split, stock dividend, reverse stock split or other subdivision of the Company's Common Stock ("Stock Event"), then the number of shares of Common Stock to be received by the Holder shall be appropriately adjusted such that the proportion of the number of shares issuable hereunder to the total number of shares of the Company (on a fully diluted basis) prior to such Stock Event is equal to the proportion of the number of shares issuable hereunder after such Stock Event to the total number of shares of the Company (on a fully-diluted basis) after such Stock Event. The Exercise Price shall be proportionately decreased or increased upon the occurrence of any Stock Event; provided that in no event will the Exercise Price be less than the par value of the Common Stock.

7.2. Other Securities. In case any Other Securities shall have been issued, or shall then be subject to issue upon the conversion or exchange of any stock (or Other Securities) of the Company (or any other issuer of Other Securities or any other entity referred to in Section 6 hereof) or to subscription, purchase or other acquisition pursuant to any rights or options granted by the Company (or such other issuer or entity), the Holder shall be entitled to receive upon exercise hereof such amount of Other Securities (in lieu of or in addition to Common Stock) as is determined in accordance with the terms

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hereof, treating all references to Common Stock herein as references to Other Securities to the extent applicable, and the computations, adjustments and readjustments provided for in this Section 7 with respect to the number of shares of Common Stock issuable upon exercise of this Warrant shall be made as nearly as possible in the manner so provided and applied to determine the amount of Other Securities from time to time receivable on the exercise of the Warrant, so as to provide the Holder with the benefits intended by this Section 7 and the other provisions of this Warrant.

8. NO DILUTION OR IMPAIRMENT. The Company will not, by amendment of 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 the Warrant, but will at all times in good faith assist in the carrying out of all such terms and in taking all such action as may be necessary or appropriate in order to protect the rights of the Holder against dilution. Without limiting the generality of the foregoing, the Company (i) will not increase the par value of any shares of stock receivable on the exercise of the Warrant above the amount payable therefor on such exercise, (ii) will take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and non-assessable shares of stock on the exercise of the Warrant from time to time outstanding, and (iii) subject to Section 14, will not transfer all or substantially all of its properties and assets to any other entity (corporate or otherwise), or consolidate with or merge into any other entity or permit any such entity to consolidate with or merge with the Company (if the Company is not the surviving entity), unless such other entity shall expressly assume in writing and will be bound by all the terms of this Warrant.

9. CERTIFICATE AS TO ADJUSTMENTS. In each case of any event that may require any adjustment or readjustment in the shares of Common Stock issuable on the exercise of this Warrant, the Company at its expense will promptly prepare a certificate setting forth such adjustment or readjustment, or stating the reasons why no adjustment or readjustment is being made, and showing, in detail, the facts upon which any such adjustment or readjustment is based, including a statement of (i) the number of shares of Common Stock then issued and outstanding, and (ii) the number of shares of Common Stock to be received upon exercise of this Warrant, in effect immediately prior to such adjustment or readjustment and as adjusted and readjusted (if required by Section 7) on account thereof. The Company will forthwith mail a copy of each such certificate to the Holder, and will, on the written request at any time of the Holder, furnish to the Holder a like certificate setting forth the calculations used to determine such adjustment or readjustment.

10. NOTICES OF RECORD DATE. In the event of:

(a) any taking by the Company of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend or other distribution, or any right to subscribe for, purchase or otherwise acquire any shares of stock of any class or any other securities or property, or to receive any other right; or

(b) any capital reorganization of the Company, any reclassification or recapitalization of the capital stock of the Company or any transfer of all or substantially all the assets of the Company to or any consolidation or merger of the Company with or into any other Person or any other Change of Control; or

(c) any voluntary or involuntary dissolution, liquidation or winding-up of the Company.

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then, and in each such event, the Company will mail or cause to be mailed to the Holder a notice specifying (i) the date on which any such record is to be taken for the purpose of such dividend, distribution or right, and stating the amount and character of such dividend, distribution or right, or (ii) the date on which any such reorganization, reclassification, recapitalization, transfer, consolidation, merger, dissolution, liquidation or winding-up is anticipated to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or Other Securities) shall be entitled to exchange their shares of Common Stock (or Other Securities) for securities or other property deliverable on such reorganization, reclassification, recapitalization, transfer, consolidation, merger, dissolution, liquidation or winding-up. Such notice shall be mailed at least thirty (30) days prior to the date specified in such notice on which any such action is to be taken.

#### 11. RESERVATION OF STOCK ISSUABLE ON EXERCISE OF WARRANT; REGULATORY COMPLIANCE

11.1. Reservation of Stock Issuable on Exercise of Warrant. The Company shall at all times while this Warrant shall be outstanding, reserve and keep available out of its authorized but unissued Common Stock, such number of shares of Common Stock as shall from time to time be sufficient to effect the exercise of all or any portion of the Warrant Shares (disregarding for this purpose any and all limitations of any kind on such exercise). The Company shall, from time to time in accordance with the Florida Business Corporation Act, increase the authorized number of shares of Common Stock or take other effective action if at any time the unissued number of authorized shares shall not be sufficient to satisfy the Company's obligations under this Section 11.

11.2 Regulatory Compliance. If any shares of Common Stock to be reserved for the purpose of exercise of the Warrant Shares require registration or listing with or approval of any Governmental Authority, stock exchange or other regulatory body under any federal or state law or regulation or otherwise before such shares may be validly issued or delivered upon exercise, the Company shall, at its sole cost and expense, in good faith and as expeditiously as possible, secure such registration, listing or approval, as the case may be.

12. DEFINITIONS. As used herein the following terms, unless the context otherwise requires, have the following respective meanings:

Aggregate Exercise Price means, in connection with the exercise of this Warrant at any time, an amount equal to the product obtained by multiplying (i) the Exercise Price times (ii) the number of shares of Common Stock for which this Warrant is being exercised at such time.

Change of Control means an event or series of events by which any of the following occurs: (a) Board approval of any consolidation or merger of the Company or similar transaction or any sale, lease or other transfer in one transaction or a series of transactions of all or substantially all of the consolidated assets of the Company and its Subsidiaries, taken as a whole, to any Person, in each case pursuant to which the Common Stock will be converted into cash, securities or other property, other than pursuant to a transaction in which the Persons that beneficially owned, directly or indirectly, voting shares of the Company immediately prior to such transaction beneficially own, directly or indirectly, voting shares representing more than a majority of the total voting power of all outstanding classes of voting shares of the continuing or surviving Person immediately after the transaction; or (b) the Company's Board of Directors approve and adopt a plan of liquidation or dissolution of the Company or a sale of all or substantially all of the Company's assets and submit such plan to stockholders for approval.

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Common Stock means (i) the Company's Common Stock, \$0.001 par value per share, (ii) any other capital stock of any class or classes (however designated) of the Company, the holders of which shall have the right, without limitation as to amount, either to all or to a share of the balance of current dividends and liquidating dividends after the payment of dividends and distributions on any shares entitled to preference, and (iii) any other securities into which or for which any of the securities described in clauses (i), or (ii) above have been converted or exchanged pursuant to a plan of recapitalization, reorganization, merger, sale of assets or otherwise.

Common Stock Deemed Outstanding means, at any given time, the number of shares of Common Stock actually outstanding at such time, plus the number of shares of Common Stock issuable at such time upon conversion of any Convertible Securities and Options (other than this Warrant and any other warrants issued under the Purchase Agreement) then outstanding to the extent such Convertible Security or Option is (i) convertible, exercisable or exchangeable at such time and (ii) convertible, exercisable or exchangeable at a price that is less than the Fair Market Value of a share of Common Stock issuable upon such conversion, exercise or exchange at such time.

Convertible Securities means any evidences of indebtedness, shares (other than Common Stock) or other securities directly or indirectly convertible into or exchangeable for Common Stock.

Exchange Act shall mean the Securities Exchange Act of 1934, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

Exercise Period means the period commencing on the six month anniversary of the Issue Date and ending on the seventh anniversary of the Issue Date.

Exercise Price means \$0.31 per share of Common Stock.

Exercise Shares means the shares of Common Stock for which this Warrant is then being exercised.

Fair Market Value means, with respect to any security or other property, the fair market value of such security or other property as determined unanimously by the Board of Directors, acting in good faith. If the Board of Directors is unable to unanimously agree to the fair market value, it will have an independent third-party appraisal conducted by a nationally-recognized valuation company and the determination of such company shall be final.

Governmental Authority means the government of the United States or any other nation, or of any political subdivision thereof, whether state or local, and any agency, authority, instrumentality, regulatory body, court, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any supra-national bodies such as the European Union or the European Central Bank).

Issue Date means [                    ], 2017.

Market Price means, with respect to the Common Stock, on any given day, the closing sale price or, if no closing sale price is reported, the last reported sale price of the shares of the Common Stock on the New York Stock Exchange on such date. If the Common Stock is not traded on the New York Stock Exchange on any date of determination, the Market Price of the Common Stock on such date of determination means the closing sale price as reported in the composite transactions for the principal U.S. national or regional securities exchange on which the Common Stock is so listed or quoted, or, if no

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closing sale price is reported, the last reported sale price on the principal U.S. national or regional securities exchange on which the Common Stock is so listed or quoted, or if the Common Stock is not so listed or quoted on a U.S. national or regional securities exchange, the last quoted bid price for the Common Stock in the over-the-counter market as reported by the OTC Markets Group or similar organization, or, if that bid price is not available, the market price of the Common Stock on that date as determined by a nationally recognized independent investment banking firm retained by the Company for this purpose.

Option means any rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

Other Securities refers to any stock (other than Common Stock) and other securities of the Company or any other entity (corporate or otherwise) (i) which the Holder at any time shall be entitled to receive, or shall have received, on the exercise of this Warrant, in lieu of or in addition to Common Stock, or (ii) which at any time shall be issuable or shall have been issued in exchange for or in replacement of Common Stock or Other Securities, in each case pursuant to Section 5 or 6 hereof.

Person shall mean and include an individual, a partnership, a joint venture, a corporation, a limited liability company, a trust, an unincorporated organization and a government or any department or agency thereof.

Preliminary Change of Control means, with respect to the Company, the earlier of (i) the public disclosure of a Change of Control or (ii) (A) the execution of a definitive agreement for a transaction or (B) the recommendation that stockholders tender in response to a tender or exchange offer, in the case of both (A) and (B), that would reasonably be expected to result in a Change of Control.

Principal Market means, at any time, the securities exchange, quotation system or over-the-counter trading facility on which the Common Stock is then principally traded or quoted at such time.

Reference Price means, on any date of determination, the greater of (i) the Market Price per share as of such date and (ii) the Exercise Price.

Securities Act means the Securities Act of 1933, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

Spin-Off means a transaction in which the Company spins off or otherwise divests itself of a part of its business or operations or disposes all or a part of its assets in a transaction in which the Company does not receive compensation for such business, operations or assets, but causes securities of a subsidiary of the Company or another entity to be distributed or otherwise issued to security holders of the Company.

Trading Day means, at any time, a day on which the Principal Market is open for the general trading or quotation of securities and the Common Stock is traded or quoted thereon without suspension or interruption.

13. LIMITATION ON BENEFICIAL OWNERSHIP. Notwithstanding anything to the contrary contained herein, the Holder shall not be entitled to receive shares of Common Stock or Other Securities (together with Common Stock, "Equity Interests") upon exercise of the Warrant to the extent (but only to the extent) that such exercise or receipt would cause the Holder Group to become, directly or indirectly, a "beneficial owner" (within the meaning of Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder) of a number of Equity Interests of a class that is registered under the

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Exchange Act which exceeds the Maximum Percentage (as defined below) of the Equity Interests of such class that are outstanding at such time. This limitation on beneficial ownership (a) may be increased, decreased or terminated, in the Holder's sole discretion, upon 61 days' written notice to the Company by the Holder and (b) shall terminate automatically on the date that is 15 days prior to expiration of the Exercise Period. Any purported delivery of Equity Interests in connection with the exercise of the Warrant prior to the termination of this restriction in accordance herewith shall be void and have no effect to the extent (but only to the extent) that such delivery would result in the Holder Group becoming the beneficial owner of more than the Maximum Percentage of the Equity Interests of a class that is registered under the Exchange Act that is outstanding at such time. If any delivery of Equity Interests owed to the Holder following exercise of the Warrant is not made, in whole or in part, as a result of this limitation, the Company's obligation to make such delivery shall not be extinguished and the Company shall deliver such Equity Interests as promptly as practicable after the Holder gives notice to the Company that such delivery would not result in such limitation being triggered or upon termination of the restriction in accordance with the terms hereof. For purposes of this Section 13, (i) unless modified by the Holder pursuant to the second sentence of this Section 13, the term "Maximum Percentage" shall mean 4.99%; provided, that if at any time after the date hereof the Holder Group beneficially owns in excess of 4.99% of any class of Equity Interests in the Company that is registered under the Exchange Act (excluding any Equity Interests deemed beneficially owned by virtue of this Warrant and the Preferred Stock), then the Maximum Percentage shall automatically increase to 9.99% so long as the Holder Group owns in excess of 4.99% of such class of Equity Interests (and shall, for the avoidance of doubt, automatically decrease to 4.99% upon the Holder Group ceasing to own in excess of 4.99% of such class of Equity Interests); and (ii) the term "Holder Group" shall mean the Holder plus any other Person with which the Holder is considered to be part of a group under Section 13 of the Exchange Act or with which the Holder otherwise files reports under Sections 13 and/or 16 of the Exchange Act. In determining the number of Equity Interests of a particular class outstanding at any point in time, the Holder may rely on the number of outstanding Equity Interests of such class as reflected in (x) the Company's most recent Annual Report on Form 10-K or Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission, as the case may be, (y) a more recent public announcement by the Company or (z) a more recent notice by the Company or its transfer agent to the Holder setting forth the number of Equity Interests of such class then outstanding. For any reason at any time, upon written or oral request of the Holder, the Company shall, within two Trading Days of such request, confirm orally and in writing to the Holder the number of Equity Interests of any class then outstanding. The provisions of this Section 13 shall be construed, corrected and implemented in a manner so as to effectuate the intended beneficial ownership limitation herein contained. The limitations in this Section 13 shall not have an effect on any calculation or payment due to the Holder of this Warrant pursuant to Section 14 hereof.

14. CHANGE OF CONTROL. Upon the occurrence of a Change of Control, the Company shall promptly, notify the Holders in writing of the Change of Control including the material elements thereof. After receipt of the Change of Control notice from the Company the Holder may, within five business days, provide a written notice to the Company that it objects to a Change of Control. Absent a timely objection notice from a Holder, the Company shall have no obligation under this Section. If a Holder provides a timely notice of objection the Company shall thereafter make an offer to repurchase the unexercised portion of this Warrant at the option value of the Warrant using Black-Scholes calculation methods and making the assumptions described in the Black-Scholes methodology described in Exhibit A. Such offer shall be made within ten (10) Trading Days following the date on which the transaction contemplated by the Change of Control is consummated, and shall remain open for a period of thirty (30) Trading Days. Payment of such purchase price by the Company to the Holder of this Warrant, if tendered pursuant to such offer to purchase, shall be due in cash promptly upon termination of such offer period. The Company will comply with all the applicable provisions of Rule 13e-4 and any other tender offer rules under the Exchange Act, if required, in connection with any offer by the Company to repurchase this

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Warrant and to the extent necessary to comply therewith, the time periods specified herein shall be extended accordingly. The fact that this Warrant may be exercised on a cashless net exercise basis as provided in Section 2.3 shall not have any effect on any calculation or payment due to the Holder of this Warrant pursuant to this Section 14. The limitations in Section 13 hereof shall not have an effect on any calculation or payment due to the Holder of this Warrant pursuant this Section 14. The Company agrees that it will not take any action resulting in a Preliminary Change of Control or a Change of Control in the absence of definitive documentation providing for such repurchase of the Warrant pursuant to this Section 14.

15. TRANSFER OF WARRANT.

15.1. Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form of assignment (the "Assignment Notice") attached hereto duly executed by the Holder or its agent or attorney. Upon such surrender, 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 Assignment Notice, 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. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Exercise Shares without having a new Warrant issued.

15.2. 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 15.1, 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 original Issue Date and shall be identical with this Warrant except as to the number of Exercise Shares issuable pursuant thereto.

16. 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 Exercise Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of this 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.

17. REMEDIES. The Company stipulates that the remedies at law of the Holder in the event of any default or threatened default by the Company in the performance of or compliance with any of the terms of this Warrant are not and will not be adequate, and that such terms may be specifically enforced by a decree for the specific performance of any agreement contained herein or by an injunction against a violation of any of the terms hereof or otherwise.

18. NOTICES. All notices and other communications from the Company to the Holder shall be sent by overnight courier (or sent in the form of a facsimile) at such address as may have been furnished to the Company in writing by the Holder or, until the Holder furnishes to the Company an address, then to, and at the address of, the last Holder of this Warrant who has so furnished an address to the Company.

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19. CONSENT TO AMENDMENTS. Any term of this Warrant may be amended, and the Company may take any action herein prohibited, or compliance therewith may be waived, only if the Company shall have obtained the written consent (and not without such written consent) to such amendment, action or waiver from the Holder; provided, that if any other holder of Warrants receives any remuneration or compensation as consideration for any consent, amendment or waiver to its Warrant, then such remuneration or compensation shall be concurrently delivered, on the same equivalent terms, ratably to the Holder. No course of dealing between the Company and the Holder nor any delay in exercising any rights hereunder shall operate as a waiver of any rights of the Holder.

20. MISCELLANEOUS. In case any provision of this Warrant shall be invalid, illegal or unenforceable, or partially invalid, illegal or unenforceable, the provision shall be enforced to the extent, if any, that it may legally be enforced and the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. If any provision of this Warrant is found to conflict with the Purchase Agreement, the provisions of this Warrant shall prevail. THIS WARRANT SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, AND THE RIGHTS OF THE PARTIES SHALL BE GOVERNED BY, THE INTERNAL LAW OF THE STATE OF NEW YORK, EXCLUDING CHOICE-OF-LAW PRINCIPLES OF THE LAW OF SUCH STATE THAT WOULD PERMIT THE APPLICATION OF THE LAWS OF A JURISDICTION OTHER THAN SUCH STATE. The headings in this Warrant are for purposes of reference only, and shall not limit or otherwise affect any of the terms hereof.

*[Remainder of Page Intentionally Left Blank]*



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IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its duly authorized officer.

Dated as of [            ], 2017

**ORAGENICS, INC.**

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

*[Signature Page to Warrant]*

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FORM OF SUBSCRIPTION

(To be signed only on exercise  
of Common Stock Purchase Warrant)

TO: Orogenics, Inc.

1. The undersigned Holder of the attached Warrant hereby elects to exercise its purchase right under such Warrant to purchase shares of Common Stock of Orogenics, Inc., a Florida corporation (the "Company"), as follows (check one or more, as applicable):

- to exercise the Warrant to purchase \_\_\_\_\_ shares of Common Stock and to pay the Aggregate Exercise Price therefor by wire transfer of United States funds to the account of the Company, which transfer has been made prior to or as of the date of delivery of this Form of Subscription pursuant to the instructions of the Company;  
and/or
- to exercise the Warrant with respect to \_\_\_\_\_ shares of Common Stock pursuant to the net exercise provisions specified in Section 2.3 of the Warrant.

2. Please issue a stock certificate or certificates representing the appropriate number of shares of Common Stock in the name of the undersigned or in such other name(s) as is specified below:

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

Address: \_\_\_\_\_

\_\_\_\_\_

TIN: \_\_\_\_\_

\_\_\_\_\_

Dated: \_\_\_\_\_

\_\_\_\_\_  
(Signature must conform exactly to name of Holder  
as specified on the face of the Warrant)

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FORM OF ASSIGNMENT  
(To be signed only on transfer of Warrant)

For value received, the undersigned hereby sells, assigns, and transfers unto \_\_\_\_\_ the right represented by the within Warrant to purchase \_\_\_\_\_ shares of Common Stock of Orogenics, Inc., a Florida corporation, to which the within Warrant relates, and appoints \_\_\_\_\_ attorney to transfer such right on the books of Orogenics, Inc., with full power of substitution in the premises.

[insert name of Holder]

Dated: \_\_\_\_\_

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

Title: \_\_\_\_\_

[insert address of Holder]

Signed in the presence of:

\_\_\_\_\_

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EXHIBIT A

**Black-Scholes Assumptions**

For the purpose of this Exhibit A:

“Acquiror” means (A) the third party that has entered into definitive documentation for a transaction, or (B) the offeror in the event of a tender or exchange offer, which could reasonably result in a Change of Control upon consummation.

- Underlying Security Price:**
- In the event of a merger or acquisition, (A) in the event of an “all cash” deal, the cash per share offered to the Company’s stockholders by the Acquiror; (B) in the event of an “all stock” deal, (1) in the event of a fixed exchange ratio transaction, the product of (i) the average of the Market Price of the Acquiror’s common stock for the ten trading day period ending on the day preceding the date of the Preliminary Change of Control and (ii) the number of Acquiror’s shares being offered for one share of Common Stock and (2) in the event of a fixed value transaction, the value offered by the Acquiror for one share of Common Stock; (C) in the event of a transaction contemplating various forms of consideration for each share of Common Stock, the cash portion, if any, shall be valued as clause (A) above and the stock portion shall be valued as clause (B) above and any other forms of consideration shall be valued by the Board of Directors of the Company in good faith, without applying any discounts to such consideration.
  - In the event of all other Change of Control events, the volume weighted average price of the Common Stock quoted on the New York Stock Exchange or any other U.S. exchange on which the Common Stock is listed, whichever is applicable, as posted by Bloomberg L.P. (or such other reference reasonably relied upon by the Company if not so published for the ten (10) Trading Days beginning on the Trading Day immediately following the Reference Date. The Reference Date shall mean the date of the Preliminary Change of Control.
- Exercise Price:** The Exercise Price as adjusted and then in effect for the Warrant.
- Dividend Rate:** The Company’s annualized dividend yield as of the Reference Date.
- Interest Rate:** The applicable U.S. 5 year treasury note risk free rate as of the Reference Date.
- Model Type:** Black-Scholes
- Exercise Type:** American
- Put or Call:** Call

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<b>Trade Date:</b>	The Reference Date
<b>Expiration Date:</b>	The expiration of the Exercise Period
<b>Settle Date:</b>	The Reference Date plus one Trading Day
<b>Exercise Delay:</b>	0
<b>Volatility:</b>	The 30-day average of the daily volatility (annualized) over the period beginning on and including the Reference Date and ending on the date that is the thirtieth (30) Trading Day prior to the Reference Date, for the Common Stock as obtained from the HVT function on Bloomberg.

Such valuation of the Warrant based on the Black-Scholes methodology shall not be discounted in any way. If the Holder disputes such Black-Scholes valuation pursuant to this *Exhibit A* as calculated by the Company, the Company and the Holder will choose a mutually-agreeable firm to compute the valuation of the Warrant using the guidelines above, and such valuation shall be final. The fees and expenses of such firm shall be borne equally by the Company and the Holder. In the event that a new warrant is issued by a company in a Spin-Off from the Company pursuant to Section 5.1(b) of the Warrant, references in this *Exhibit A* to such spun-off company's "Dividend Rate" and "Volatility" shall refer those of the Company unless at the time of such measurement, such spun-off company has been trading in the public markets for at least 6 months.

**AGREEMENT TO AMEND COMMON STOCK WARRANTS**

THIS AGREEMENT TO AMEND COMMON STOCK WARRANTS (this "Agreement") is made as of July 27, 2017 by and among Orogenics, Inc. (the "Company"), and MSD Credit Opportunity Master Fund, L.P., Harvest Intrexon Enterprise Fund I, L.P., and Harvest Intrexon Enterprise Fund I (AI), L.P. (each a "Holder" and collectively the "Holdings").

**WHEREAS**, in connection with the first and second closing of that certain Securities Purchase Agreement, dated May 10, 2017, by and between the Company and the Holders, Company issued Common Stock Purchase Warrants No. 2017-1 through No. 2017-6 to the Holders (the "Original Warrants");

**WHEREAS**, the parties desire to amend and restate the Original Warrants by amending certain provisions in the Original Warrants related to changes of control.

**NOW THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. Agreement to Amend and Restate Original Warrants. The parties agree to amend and restate the Original Warrants to read as set forth in the form of Amended and Restated Common Stock Purchase Warrant attached hereto as Exhibit A (as so amended, the "Amended Warrants").

2. Return of Original Warrants. Upon delivery of the applicable Amended Warrants to a Holder, such Holder's Original Warrants shall be deemed replaced by the Amended Warrants and such Holder's Original Warrants shall be deemed cancelled and of no further force or effect. Each Holder shall promptly return its Original Warrants to the Company at 4902 Eisenhower Boulevard, Suite 125, Tampa, FL, Attn: Michael Sullivan, CFO.

3. Counterparts; Facsimile. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original and all of which shall constitute the same instrument. Any signature page delivered by a fax machine or other electronic delivery shall be binding to the same extent as an original signature page, with regard to any agreement subject to the terms hereof or any amendment thereto.

4. Entire Agreement. This Agreement, together with the Amended Warrants and any exhibits thereto (which are all incorporated herein by this reference), constitute the entire agreement among the parties pertaining to the subject matter hereof, and supersede all prior agreements and understandings of the parties in connection herewith.

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

**ORAGENICS, INC.**

By: /s/ Alan Joslyn  
Name: Alan Joslyn  
Title: President and CEO

**MSD CREDIT OPPORTUNITY MASTER FUND,  
L.P.**

By: /s/ Marcello Liguori  
Name: Marcello Liguori  
Title: Managing Director

**HARVEST INTREXON ENTERPRISE FUND I,  
L.P.**

By: /s/ Joseph Jolson  
Name: Joseph Jolson  
Title: CEO

**HARVEST INTREXON ENTERPRISE FUND I  
(AD), L.P.**

By: /s/ Joseph Jolson  
Name: Joseph Jolson  
Title: CEO

*[Signature Page to Agreement to Amend Common Stock Warrant]*

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**Exhibit A**  
**Form of Amended and Restated Common Stock Purchase Warrant**

THIS WARRANT AND ANY SHARES ACQUIRED UPON THE EXERCISE OF THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN EXEMPTION THEREFROM UNDER SUCH ACT AND ANY APPLICABLE STATE SECURITIES LAWS.

This Warrant is issued pursuant to that certain Securities Purchase Agreement dated May 10, 2017 by and among the Company and the other parties signatory thereto (the "Purchase Agreement") and amends, restates and replaces the Common Stock Purchase Warrant issued on [            ], 2017.

No. [        ]

CUSIP: [            ]

**ORAGENICS, INC.**

**AMENDED AND RESTATED COMMON STOCK PURCHASE WARRANT**

Oragenics, Inc., a Florida corporation (together with any corporation which shall succeed to or assume the obligations of Oragenics, Inc. hereunder, the "Company"), hereby certifies that, for value received, [            ] (the "Holder"), or its assigns, is entitled, subject to the terms set forth below, to purchase from the Company at any time during the Exercise Period (as defined in Section 12 hereof) up to [            ] fully paid and non-assessable shares of Common Stock (as defined in Section 12 hereof), at a purchase price per share equal to the Exercise Price (as defined in Section 12 hereof). The number of shares of Common Stock for which this Common Stock Purchase Warrant (the "Warrant") is exercisable and the Exercise Price are subject to adjustment as provided herein.

1. DEFINITIONS. Terms defined in the Purchase Agreement and not otherwise defined herein are used herein with the meanings so defined. Certain terms are used in this Warrant as specifically defined in Section 12 hereof.

2. EXERCISE OF WARRANT.

2.1. Exercise. This Warrant may be exercised prior to its expiration pursuant to Section 2.5 hereof by the Holder at any time or from time to time during the Exercise Period, by submitting the form of subscription attached hereto (the "Exercise Notice") duly executed by the Holder, to the Company at its principal office, indicating whether the Holder is electing to purchase a specified number of shares by paying the Aggregate Exercise Price as provided in Section 2.2 or is electing to exercise this Warrant as to a specified number of shares pursuant to the net exercise provisions of Section 2.3. On or before the first Trading Day following the date on which the Company has received the Exercise Notice, the Company shall transmit by facsimile an acknowledgement of confirmation of receipt of the Exercise Notice. This Warrant shall be deemed exercised for all purposes as of the close of business on the day on which the Holder has delivered the Exercise Notice to the Company. The Aggregate Purchase Price, if any, shall be paid by wire transfer to the Company within two (2) Business Days of the date of exercise and prior to the time the Company issues the certificates evidencing the shares issuable upon such exercise. In the event the Warrant is not exercised in full, the Company may, at its expense, require the Holder, after such partial exercise, to promptly return this Warrant to the Company and the Company will



forthwith issue and deliver to or upon the order of the Holder a new Warrant or Warrants of like tenor, in the name of the Holder or as the Holder (upon payment by the Holder of any applicable transfer taxes) may request, calling in the aggregate on the face or faces thereof for the number of shares of Common Stock equal (without giving effect to any adjustment therein) to the number of such shares called for on the face of this Warrant minus the number of such shares (without giving effect to any adjustment therein) for which this Warrant shall have been exercised.

2.2. Payment of Exercise Price by Wire Transfer. If the Holder elects to purchase a specified number of shares by paying the Aggregate Exercise Price, the Holder shall pay such amount by wire transfer of immediately available funds to an account designated in advance by the Company.

2.3. Net Exercise. The Holder may also elect to exercise this Warrant at any time or from time to time, by receiving shares of Common Stock equal to the number of shares determined pursuant to the following formula:

$$X = \frac{Y(A - B)}{A}$$

where,

X= the number of shares of Common Stock to be issued to Holder;

Y= the number of shares of Common Stock as to which this Warrant is to be exercised (as indicated on the Exercise Notice);

A= the volume weighted average price of the Common Stock quoted on the Nasdaq Capital Market or any other U.S. exchange on which the Common Stock is listed, whichever is applicable, as posted by Bloomberg L.P. (or such other reference reasonably relied upon by the Company if not so published) for the five (5) Trading Days ending on the Trading Day immediately preceding the date of exercise; and

B= the Exercise Price.

2.4. Antitrust Notification. If the Holder determines, in its sole judgment upon the advice of counsel, that an exercise of this Warrant pursuant to the terms hereof would be subject to the provisions of the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended (the "HSR Act"), the Company shall file, within seven (7) Business Days after receiving notice from the Holder of the applicability of the HSR Act and a request to so file, with the United States Federal Trade Commission (the "FTC") and the United States Department of Justice (the "DOJ") the notification and report form and any supplemental information required to be filed by it pursuant to the HSR Act in connection with the exercise of this Warrant. Any such notification and report form and supplemental information will be in full compliance with the requirements of the HSR Act. The Company will furnish to the Holder promptly (but in no event more than five (5) Business Days) such information and assistance as the Holder may reasonably request in connection with the preparation of any filing or submission required to be filed by the Holder under the HSR Act. The Company shall respond promptly after receiving any inquiries or requests for additional information from the FTC or the DOJ (and in no event more than three (3) Business Days after receipt of such inquiry or request). The Company shall keep the Holder apprised periodically and at the Holder's request of the status of any communications with, and any inquiries or requests for additional information from, the FTC or the DOJ. The Company shall bear all filing or other fees required to be paid by the Company and the Holder (or the "ultimate parent entity" of the Holder, if any) under the HSR Act or any other applicable law in connection with such filings and all costs and expenses (including, without limitation, reasonable attorneys' fees and expenses) incurred by the Company and the Holder in connection with the preparation of such filings and responses to inquiries or requests. In the event that this Section 2.4 is applicable to any exercise of this Warrant, the purchase by

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the Holder of the Exercise Shares subject to such exercise, and the payment by the Holder of the Exercise Price therefor, shall be subject to the expiration or earlier termination of the waiting period under the HSR Act (with the exercise date of this Warrant being deemed to be the date immediately following the date of such expiration or early termination).

2.5. Termination. This Warrant shall terminate upon the earlier to occur of (i) exercise in full or (ii) the expiration of the Exercise Period.

3. REGISTRATION RIGHTS. The Holder of this Warrant has certain rights to require the Company to register its resale of the Warrant Shares under the Securities Act and any blue sky or securities laws of any jurisdictions within the United States at the time and in the manner specified in the Registration Rights Agreement, dated as of May 10, 2017, as amended and in effect from time to time.

#### 4. DELIVERY OF STOCK CERTIFICATES ON EXERCISE

4.1. Delivery of Exercise Shares. As soon as practicable after any exercise of this Warrant and in any event within three (3) Trading Days thereafter (such date, the "Exercise Share Delivery Date"), the Company shall, at its expense (including the payment by it of any applicable issue or stamp taxes), cause to be issued in the name of and delivered to the Holder, or as the Holder may direct, a certificate or certificates evidencing the number of fully paid and nonassessable shares of Common Stock (or Other Securities, as applicable) (which number shall be rounded up to the nearest whole share in the event any fractional share may otherwise be issuable upon such exercise) to which the Holder shall be entitled on such exercise, in such denominations as may be requested by the Holder, which certificate or certificates shall be free of restrictive and trading legends provided that the shares subject to the Exercise Notice are included in an effective Registration Statement or all applicable requirements of Rule 144, including the holding period thereof, are met. In lieu of delivering physical certificates for the shares of Common Stock (or Other Securities) issuable upon any exercise of this Warrant, provided the Company's transfer agent is participating in the Depository Trust Company ("DTC") Fast Automated Securities Transfer ("FAST") program or a similar program and either (A) there is an effective registration statement permitting the issuance of the shares to or resale of the shares by the Holder or (B) the shares are eligible for resale without volume or manner-of-sale limitations pursuant to Rule 144 (it being understood that if both (A) and (B) are not satisfied, then such shares of Common Stock (or Other Securities) shall be kept in book entry form by the Company's transfer agent), upon request of the Holder, the Company shall cause its transfer agent to electronically transmit such shares of Common Stock (or Other Securities) issuable upon exercise of this Warrant to the Holder (or its designee), by crediting the account of the Holder's (or such designee's) broker with DTC through its Deposit Withdrawal Agent Commission system (provided that the same time periods herein as for stock certificates shall apply) as instructed by the Holder (or its designee). The Company understands that a delay in the delivery of the Exercise Shares after the Exercise Share Delivery Date could result in economic loss to the Holder. As compensation to the Holder for such loss, the Company agrees to pay (as liquidated damages and not as a penalty) to the Holder for late issuance of Exercise Shares upon exercise of this Warrant the proportionate amount of \$10 per Trading Day (increasing to \$20 per Trading Day after the fifth (5th) Trading Day) after the Exercise Share Delivery Date for each \$1,000 of Aggregate Exercise Price for which this Warrant is exercised which are not timely delivered. The Company shall pay any payments incurred under this Section 4 in immediately available funds upon demand. Furthermore, in addition to any other remedies which may be available to the Holder, in the event that the Company fails for any reason to effect delivery of the Exercise Shares by the Exercise Share Delivery Date, the Holder may revoke all or part of the relevant Warrant exercise by delivery of a notice to such effect to the Company, whereupon the Company and the Holder shall each be restored to their respective positions immediately prior to the exercise of the relevant portion of this Warrant, except that the liquidated damages described above shall be payable through the date notice of revocation or rescission is given to the Company.

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4.2. Compensation for Buy-In on Failure to Timely Deliver Exercise Shares. In addition to any other rights available to the Holder, if the Company fails to cause its transfer agent to transmit to the Holder Exercise Shares pursuant to an exercise on or before the Exercise Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Exercise 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 Exercise 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 Exercise 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.

4.3. Charges, Taxes and Expenses. Issuance of Exercise 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 Exercise Shares, all of which taxes and expenses shall be paid by the Company, and such Exercise 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 Exercise 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 Exercise Notice.

## 5. ADJUSTMENT FOR DIVIDENDS, DISTRIBUTIONS AND RECLASSIFICATIONS.

5.1. Distribution of Assets; Spin-Off. If the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a Spin-Off, dividend, reclassification, corporate rearrangement or other similar transaction, but excluding cash dividends which are prohibited by Section 5.2 hereof and excluding stock dividends or stock split adjustments in respect of which are provided for in Section 7 hereof) (a "Distribution"), at any time on or after the First Closing Date (as defined in the Purchase Agreement), then, in each such case:

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(a) (i) the Exercise Price in effect immediately prior to the close of business on the record date fixed for the determination of holders of Common Stock entitled to receive the Distribution shall be reduced, effective as of the close of business on such record date, to a price determined by multiplying such Exercise Price by a fraction of which:

(A) the numerator shall be the Market Price of the Common Stock on the Trading Day immediately preceding such record date minus the Fair Market Value of the Distribution applicable to one share of Common Stock, and

(B) the denominator shall be the Market Price of the Common Stock on the Trading Day immediately preceding such record date;

and (ii) the number of Warrant Shares obtainable upon exercise of this Warrant shall be increased to a number of shares equal to the number of shares of Common Stock obtainable immediately prior to the close of business on the record date fixed for the determination of holders of Common Stock entitled to receive the Distribution multiplied by the reciprocal of the fraction set forth in the immediately preceding clause (i) of this Section 5.1(a); and

(b) Notwithstanding the provisions of the foregoing clause (a), in the event of a Spin-Off in which the Distribution is of common stock of a subsidiary of the Company, then (i) the Exercise Price in effect immediately prior to the close of business on the record date fixed for the determination of holders of Common Stock entitled to receive such Distribution shall be reduced, effective as of the close of business on such record date, to a price determined by multiplying such Exercise Price by a fraction of which:

(A) the numerator shall be the Market Price of the Common Stock on the Trading Day immediately preceding such record date minus the Fair Market Value of the Distribution applicable to one share of Common Stock, and

(B) the denominator shall be the Market Price of the Common Stock on the Trading Day immediately preceding such record date;

and (ii) the Holder shall receive an additional warrant to purchase common stock of such company, the terms of which shall be identical to those of this Warrant, except that such warrant shall be exercisable into the number of shares of common stock of such company that would have been issuable or distributed to the Holder of this Warrant pursuant to the Distribution had the Holder exercised this Warrant for cash for the full number of shares of Common Stock on the face of this Warrant (notwithstanding the requirement that this Warrant be exercised pursuant to the net exercise provisions of Section 2.3) immediately prior to such record date and with an exercise price equal to the amount by which the Exercise Price of this Warrant was decreased with respect to the Distribution pursuant to the terms of the preceding clause (i) of this Section 5.1(b).

5.2. Cash Dividends. For so long as any Warrants are outstanding, no cash dividend shall be declared or paid or set aside for payment on any shares of the Company's Common Stock or any parity or junior stock thereto.

5.3. Other Events. If any event occurs of the type contemplated by the provisions of this Section 5 but not expressly provided for by such provisions, then the Company's board of directors (the "Board of Directors"), acting in good faith and consistent with their fiduciary duties, shall make an appropriate adjustment in the Exercise Price and the number of shares of Common Stock obtainable upon exercise of this Warrant so as to protect the rights of the Holder.

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6. ADJUSTMENT FOR REORGANIZATION, CONSOLIDATION, MERGER, ETC.

6.1. Certain Adjustments. In case at any time or from time to time on or after the First Closing Date (as defined in the Purchase Agreement), the Company shall (i) effect a capital reorganization, reclassification or recapitalization, (ii) consolidate with or merge into any other Person, or (iii) transfer all or substantially all of its properties or assets to any other Person under any plan or arrangement contemplating the dissolution of the Company, then in each such case, this Warrant shall thereafter be exercisable for the same kind and amounts of securities (including shares of stock) or other assets, or both, which were issuable or distributable to the holders of outstanding Common Stock upon such reorganization, reclassification, recapitalization, consolidation, merger or transfer, in respect of that number of shares of Common Stock for which this Warrant could have been exercised immediately prior to such reorganization, reclassification, recapitalization, consolidation, merger or transfer; and, in any such case, appropriate adjustments (as determined in good faith by the Board of Directors of the Company) shall be made to assure that the provisions set forth herein shall thereafter be applicable, as nearly as reasonably may be practicable, in relation to any securities or other assets thereafter deliverable upon the exercise of this Warrant.

6.2. Continuation of Terms. Upon any reorganization, consolidation, merger or transfer (and any dissolution following any transfer) referred to in this Section 6, this Warrant shall continue in full force and effect and the terms hereof shall be applicable to the shares of stock and other securities and property receivable on the exercise of this Warrant after the consummation of such reorganization, consolidation or merger or the effective date of dissolution following any such transfer, as the case may be, and shall be binding upon the issuer of any such stock or other securities, including, in the case of any such transfer, the Person acquiring all or substantially all of the properties or assets of the Company, whether or not such Person shall have expressly assumed the terms of this Warrant as provided in Section 8 hereof.

7. ADJUSTMENTS FOR STOCK EVENTS AND ISSUANCE OF OTHER SECURITIES.

7.1. General. If at any time on or after the First Closing Date (as defined in the Purchase Agreement) there shall occur any stock split, stock dividend, reverse stock split or other subdivision of the Company's Common Stock ("Stock Event"), then the number of shares of Common Stock to be received by the Holder shall be appropriately adjusted such that the proportion of the number of shares issuable hereunder to the total number of shares of the Company (on a fully diluted basis) prior to such Stock Event is equal to the proportion of the number of shares issuable hereunder after such Stock Event to the total number of shares of the Company (on a fully-diluted basis) after such Stock Event. The Exercise Price shall be proportionately decreased or increased upon the occurrence of any Stock Event; provided that in no event will the Exercise Price be less than the par value of the Common Stock.

7.2. Other Securities. In case any Other Securities shall have been issued, or shall then be subject to issue upon the conversion or exchange of any stock (or Other Securities) of the Company (or any other issuer of Other Securities or any other entity referred to in Section 6 hereof) or to subscription, purchase or other acquisition pursuant to any rights or options granted by the Company (or such other issuer or entity), the Holder shall be entitled to receive upon exercise hereof such amount of Other Securities (in lieu of or in addition to Common Stock) as is determined in accordance with the terms

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hereof, treating all references to Common Stock herein as references to Other Securities to the extent applicable, and the computations, adjustments and readjustments provided for in this Section 7 with respect to the number of shares of Common Stock issuable upon exercise of this Warrant shall be made as nearly as possible in the manner so provided and applied to determine the amount of Other Securities from time to time receivable on the exercise of the Warrant, so as to provide the Holder with the benefits intended by this Section 7 and the other provisions of this Warrant.

8. NO DILUTION OR IMPAIRMENT. The Company will not, by amendment of 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 the Warrant, but will at all times in good faith assist in the carrying out of all such terms and in taking all such action as may be necessary or appropriate in order to protect the rights of the Holder against dilution. Without limiting the generality of the foregoing, the Company (i) will not increase the par value of any shares of stock receivable on the exercise of the Warrant above the amount payable therefor on such exercise, (ii) will take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and non-assessable shares of stock on the exercise of the Warrant from time to time outstanding, and (iii) subject to Section 14, will not transfer all or substantially all of its properties and assets to any other entity (corporate or otherwise), or consolidate with or merge into any other entity or permit any such entity to consolidate with or merge with the Company (if the Company is not the surviving entity), unless such other entity shall expressly assume in writing and will be bound by all the terms of this Warrant.

9. CERTIFICATE AS TO ADJUSTMENTS. In each case of any event that may require any adjustment or readjustment in the shares of Common Stock issuable on the exercise of this Warrant, the Company at its expense will promptly prepare a certificate setting forth such adjustment or readjustment, or stating the reasons why no adjustment or readjustment is being made, and showing, in detail, the facts upon which any such adjustment or readjustment is based, including a statement of (i) the number of shares of Common Stock then issued and outstanding, and (ii) the number of shares of Common Stock to be received upon exercise of this Warrant, in effect immediately prior to such adjustment or readjustment and as adjusted and readjusted (if required by Section 7) on account thereof. The Company will forthwith mail a copy of each such certificate to the Holder, and will, on the written request at any time of the Holder, furnish to the Holder a like certificate setting forth the calculations used to determine such adjustment or readjustment.

10. NOTICES OF RECORD DATE. In the event of:

- (a) any taking by the Company of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend or other distribution, or any right to subscribe for, purchase or otherwise acquire any shares of stock of any class or any other securities or property, or to receive any other right; or
- (b) any capital reorganization of the Company, any reclassification or recapitalization of the capital stock of the Company or any transfer of all or substantially all the assets of the Company to or any consolidation or merger of the Company with or into any other Person or any other Change of Control; or
- (c) any voluntary or involuntary dissolution, liquidation or winding-up of the Company.

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then, and in each such event, the Company will mail or cause to be mailed to the Holder a notice specifying (i) the date on which any such record is to be taken for the purpose of such dividend, distribution or right, and stating the amount and character of such dividend, distribution or right, or (ii) the date on which any such reorganization, reclassification, recapitalization, transfer, consolidation, merger, dissolution, liquidation or winding-up is anticipated to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or Other Securities) shall be entitled to exchange their shares of Common Stock (or Other Securities) for securities or other property deliverable on such reorganization, reclassification, recapitalization, transfer, consolidation, merger, dissolution, liquidation or winding-up. Such notice shall be mailed at least thirty (30) days prior to the date specified in such notice on which any such action is to be taken.

#### 11. RESERVATION OF STOCK ISSUABLE ON EXERCISE OF WARRANT; REGULATORY COMPLIANCE

11.1. Reservation of Stock Issuable on Exercise of Warrant. The Company shall at all times while this Warrant shall be outstanding, reserve and keep available out of its authorized but unissued Common Stock, such number of shares of Common Stock as shall from time to time be sufficient to effect the exercise of all or any portion of the Warrant Shares (disregarding for this purpose any and all limitations of any kind on such exercise). The Company shall, from time to time in accordance with the Florida Business Corporation Act, increase the authorized number of shares of Common Stock or take other effective action if at any time the unissued number of authorized shares shall not be sufficient to satisfy the Company's obligations under this Section 11.

11.2 Regulatory Compliance. If any shares of Common Stock to be reserved for the purpose of exercise of the Warrant Shares require registration or listing with or approval of any Governmental Authority, stock exchange or other regulatory body under any federal or state law or regulation or otherwise before such shares may be validly issued or delivered upon exercise, the Company shall, at its sole cost and expense, in good faith and as expeditiously as possible, secure such registration, listing or approval, as the case may be.

12. DEFINITIONS. As used herein the following terms, unless the context otherwise requires, have the following respective meanings:

Aggregate Exercise Price means, in connection with the exercise of this Warrant at any time, an amount equal to the product obtained by multiplying (i) the Exercise Price times (ii) the number of shares of Common Stock for which this Warrant is being exercised at such time.

Change of Control means an event or series of events by which any of the following occurs: (a) Board approval of any consolidation or merger of the Company or similar transaction or any sale, lease or other transfer in one transaction or a series of transactions of all or substantially all of the consolidated assets of the Company and its Subsidiaries, taken as a whole, to any Person, in each case pursuant to which the Common Stock will be converted into cash, securities or other property, other than pursuant to a transaction in which the Persons that beneficially owned, directly or indirectly, voting shares of the Company immediately prior to such transaction beneficially own, directly or indirectly, voting shares representing more than a majority of the total voting power of all outstanding classes of voting shares of the continuing or surviving Person immediately after the transaction; or (b) the Company's Board of Directors approve and adopt a plan of liquidation or dissolution of the Company or a sale of all or substantially all of the Company's assets and submit such plan to stockholders for approval.

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Common Stock means (i) the Company's Common Stock, \$0.001 par value per share, (ii) any other capital stock of any class or classes (however designated) of the Company, the holders of which shall have the right, without limitation as to amount, either to all or to a share of the balance of current dividends and liquidating dividends after the payment of dividends and distributions on any shares entitled to preference, and (iii) any other securities into which or for which any of the securities described in clauses (i), or (ii) above have been converted or exchanged pursuant to a plan of recapitalization, reorganization, merger, sale of assets or otherwise.

Common Stock Deemed Outstanding means, at any given time, the number of shares of Common Stock actually outstanding at such time, plus the number of shares of Common Stock issuable at such time upon conversion of any Convertible Securities and Options (other than this Warrant and any other warrants issued under the Purchase Agreement) then outstanding to the extent such Convertible Security or Option is (i) convertible, exercisable or exchangeable at such time and (ii) convertible, exercisable or exchangeable at a price that is less than the Fair Market Value of a share of Common Stock issuable upon such conversion, exercise or exchange at such time.

Convertible Securities means any evidences of indebtedness, shares (other than Common Stock) or other securities directly or indirectly convertible into or exchangeable for Common Stock.

Exchange Act shall mean the Securities Exchange Act of 1934, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

Exercise Period means the period commencing on the six month anniversary of the Issue Date and ending on the seventh anniversary of the Issue Date.

Exercise Price means \$0.31 per share of Common Stock.

Exercise Shares means the shares of Common Stock for which this Warrant is then being exercised.

Fair Market Value means, with respect to any security or other property, the fair market value of such security or other property as determined unanimously by the Board of Directors, acting in good faith. If the Board of Directors is unable to unanimously agree to the fair market value, it will have an independent third-party appraisal conducted by a nationally-recognized valuation company and the determination of such company shall be final.

Governmental Authority means the government of the United States or any other nation, or of any political subdivision thereof, whether state or local, and any agency, authority, instrumentality, regulatory body, court, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any supra-national bodies such as the European Union or the European Central Bank).

Issue Date means [                    ], 2017.

Market Price means, with respect to the Common Stock, on any given day, the closing sale price or, if no closing sale price is reported, the last reported sale price of the shares of the Common Stock on the New York Stock Exchange on such date. If the Common Stock is not traded on the New York Stock Exchange on any date of determination, the Market Price of the Common Stock on such date of determination means the closing sale price as reported in the composite transactions for the principal U.S.



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national or regional securities exchange on which the Common Stock is so listed or quoted, or, if no closing sale price is reported, the last reported sale price on the principal U.S. national or regional securities exchange on which the Common Stock is so listed or quoted, or if the Common Stock is not so listed or quoted on a U.S. national or regional securities exchange, the last quoted bid price for the Common Stock in the over-the-counter market as reported by the OTC Markets Group or similar organization, or, if that bid price is not available, the market price of the Common Stock on that date as determined by a nationally recognized independent investment banking firm retained by the Company for this purpose.

Option means any rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

Other Securities refers to any stock (other than Common Stock) and other securities of the Company or any other entity (corporate or otherwise) (i) which the Holder at any time shall be entitled to receive, or shall have received, on the exercise of this Warrant, in lieu of or in addition to Common Stock, or (ii) which at any time shall be issuable or shall have been issued in exchange for or in replacement of Common Stock or Other Securities, in each case pursuant to Section 5 or 6 hereof.

Person shall mean and include an individual, a partnership, a joint venture, a corporation, a limited liability company, a trust, an unincorporated organization and a government or any department or agency thereof.

Preliminary Change of Control means, with respect to the Company, the earlier of (i) the public disclosure of a Change of Control or (ii) (A) the execution of a definitive agreement for a transaction or (B) the recommendation that stockholders tender in response to a tender or exchange offer, in the case of both (A) and (B), that would reasonably be expected to result in a Change of Control.

Principal Market means, at any time, the securities exchange, quotation system or over-the-counter trading facility on which the Common Stock is then principally traded or quoted at such time.

Reference Price means, on any date of determination, the greater of (i) the Market Price per share as of such date and (ii) the Exercise Price.

Securities Act means the Securities Act of 1933, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

Spin-Off means a transaction in which the Company spins off or otherwise divests itself of a part of its business or operations or disposes all or a part of its assets in a transaction in which the Company does not receive compensation for such business, operations or assets, but causes securities of a subsidiary of the Company or another entity to be distributed or otherwise issued to security holders of the Company.

Trading Day means, at any time, a day on which the Principal Market is open for the general trading or quotation of securities and the Common Stock is traded or quoted thereon without suspension or interruption.

13. LIMITATION ON BENEFICIAL OWNERSHIP. Notwithstanding anything to the contrary contained herein, the Holder shall not be entitled to receive shares of Common Stock or Other Securities (together with Common Stock, "Equity Interests") upon exercise of the Warrant to the extent (but only to the extent) that such exercise or receipt would cause the Holder Group to become, directly or indirectly, a "beneficial owner" (within the meaning of Section 13(d) of the Exchange Act and the rules and

regulations promulgated thereunder) of a number of Equity Interests of a class that is registered under the Exchange Act which exceeds the Maximum Percentage (as defined below) of the Equity Interests of such class that are outstanding at such time. This limitation on beneficial ownership (a) may be increased, decreased or terminated, in the Holder's sole discretion, upon 61 days' written notice to the Company by the Holder and (b) shall terminate automatically on the date that is 15 days prior to expiration of the Exercise Period. Any purported delivery of Equity Interests in connection with the exercise of the Warrant prior to the termination of this restriction in accordance herewith shall be void and have no effect to the extent (but only to the extent) that such delivery would result in the Holder Group becoming the beneficial owner of more than the Maximum Percentage of the Equity Interests of a class that is registered under the Exchange Act that is outstanding at such time. If any delivery of Equity Interests owed to the Holder following exercise of the Warrant is not made, in whole or in part, as a result of this limitation, the Company's obligation to make such delivery shall not be extinguished and the Company shall deliver such Equity Interests as promptly as practicable after the Holder gives notice to the Company that such delivery would not result in such limitation being triggered or upon termination of the restriction in accordance with the terms hereof. For purposes of this Section 13, (i) unless modified by the Holder pursuant to the second sentence of this Section 13, the term "Maximum Percentage" shall mean 4.99%; provided, that if at any time after the date hereof the Holder Group beneficially owns in excess of 4.99% of any class of Equity Interests in the Company that is registered under the Exchange Act (excluding any Equity Interests deemed beneficially owned by virtue of this Warrant and the Preferred Stock), then the Maximum Percentage shall automatically increase to 9.99% so long as the Holder Group owns in excess of 4.99% of such class of Equity Interests (and shall, for the avoidance of doubt, automatically decrease to 4.99% upon the Holder Group ceasing to own in excess of 4.99% of such class of Equity Interests); and (ii) the term "Holder Group" shall mean the Holder plus any other Person with which the Holder is considered to be part of a group under Section 13 of the Exchange Act or with which the Holder otherwise files reports under Sections 13 and/or 16 of the Exchange Act. In determining the number of Equity Interests of a particular class outstanding at any point in time, the Holder may rely on the number of outstanding Equity Interests of such class as reflected in (x) the Company's most recent Annual Report on Form 10-K or Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission, as the case may be, (y) a more recent public announcement by the Company or (z) a more recent notice by the Company or its transfer agent to the Holder setting forth the number of Equity Interests of such class then outstanding. For any reason at any time, upon written or oral request of the Holder, the Company shall, within two Trading Days of such request, confirm orally and in writing to the Holder the number of Equity Interests of any class then outstanding. The provisions of this Section 13 shall be construed, corrected and implemented in a manner so as to effectuate the intended beneficial ownership limitation herein contained. The limitations in this Section 13 shall not have an effect on any calculation or payment due to the Holder of this Warrant pursuant to Section 14 hereof.

14. CHANGE OF CONTROL. Upon the occurrence of a Change of Control, the Company shall promptly, notify the Holders in writing of the Change of Control including the material elements thereof. After receipt of the Change of Control notice from the Company the Holder may, within five business days, provide a written notice to the Company that it objects to a Change of Control. Absent a timely objection notice from a Holder, the Company shall have no obligation under this Section. If a Holder provides a timely notice of objection the Company shall thereafter make an offer to repurchase the unexercised portion of this Warrant at the option value of the Warrant using Black-Scholes calculation methods and making the assumptions described in the Black-Scholes methodology described in Exhibit A. Such offer shall be made within ten (10) Trading Days following the date on which the transaction contemplated by the Change of Control is consummated, and shall remain open for a period of thirty (30) Trading Days. Payment of such purchase price by the Company to the Holder of this Warrant, if tendered pursuant to such offer to purchase, shall be due in cash promptly upon termination of such offer period. The Company will comply with all the applicable provisions of Rule 13e-4 and any other tender offer

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rules under the Exchange Act, if required, in connection with any offer by the Company to repurchase this Warrant and to the extent necessary to comply therewith, the time periods specified herein shall be extended accordingly. The fact that this Warrant may be exercised on a cashless net exercise basis as provided in Section 2.3 shall not have any effect on any calculation or payment due to the Holder of this Warrant pursuant to this Section 14. The limitations in Section 13 hereof shall not have an effect on any calculation or payment due to the Holder of this Warrant pursuant to this Section 14. The Company agrees that it will not take any action resulting in a Preliminary Change of Control or a Change of Control in the absence of definitive documentation providing for such repurchase of the Warrant pursuant to this Section 14.

15. TRANSFER OF WARRANT.

15.1. Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form of assignment (the "Assignment Notice") attached hereto duly executed by the Holder or its agent or attorney. Upon such surrender, 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 Assignment Notice, 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. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Exercise Shares without having a new Warrant issued.

15.2. 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 15.1, 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 original Issue Date and shall be identical with this Warrant except as to the number of Exercise Shares issuable pursuant thereto.

16. 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 Exercise Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of this 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.

17. REMEDIES. The Company stipulates that the remedies at law of the Holder in the event of any default or threatened default by the Company in the performance of or compliance with any of the terms of this Warrant are not and will not be adequate, and that such terms may be specifically enforced by a decree for the specific performance of any agreement contained herein or by an injunction against a violation of any of the terms hereof or otherwise.

18. NOTICES. All notices and other communications from the Company to the Holder shall be sent by overnight courier (or sent in the form of a facsimile) at such address as may have been furnished to the Company in writing by the Holder or, until the Holder furnishes to the Company an address, then to, and at the address of, the last Holder of this Warrant who has so furnished an address to the Company.

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19. CONSENT TO AMENDMENTS. Any term of this Warrant may be amended, and the Company may take any action herein prohibited, or compliance therewith may be waived, only if the Company shall have obtained the written consent (and not without such written consent) to such amendment, action or waiver from the Holder; provided, that if any other holder of Warrants receives any remuneration or compensation as consideration for any consent, amendment or waiver to its Warrant, then such remuneration or compensation shall be concurrently delivered, on the same equivalent terms, ratably to the Holder. No course of dealing between the Company and the Holder nor any delay in exercising any rights hereunder shall operate as a waiver of any rights of the Holder.

20. MISCELLANEOUS. In case any provision of this Warrant shall be invalid, illegal or unenforceable, or partially invalid, illegal or unenforceable, the provision shall be enforced to the extent, if any, that it may legally be enforced and the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. If any provision of this Warrant is found to conflict with the Purchase Agreement, the provisions of this Warrant shall prevail. THIS WARRANT SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, AND THE RIGHTS OF THE PARTIES SHALL BE GOVERNED BY, THE INTERNAL LAW OF THE STATE OF NEW YORK, EXCLUDING CHOICE-OF-LAW PRINCIPLES OF THE LAW OF SUCH STATE THAT WOULD PERMIT THE APPLICATION OF THE LAWS OF A JURISDICTION OTHER THAN SUCH STATE. The headings in this Warrant are for purposes of reference only, and shall not limit or otherwise affect any of the terms hereof.

*[Remainder of Page Intentionally Left Blank]*

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IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its duly authorized officer.

Dated as of [            ], 2017

**ORAGENICS, INC.**

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

*[Signature Page to Warrant]*

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FORM OF SUBSCRIPTION

(To be signed only on exercise  
of Common Stock Purchase Warrant)

TO: Orogenics, Inc.

1. The undersigned Holder of the attached Warrant hereby elects to exercise its purchase right under such Warrant to purchase shares of Common Stock of Orogenics, Inc., a Florida corporation (the "Company"), as follows (check one or more, as applicable):

- to exercise the Warrant to purchase \_\_\_\_\_ shares of Common Stock and to pay the Aggregate Exercise Price therefor by wire transfer of United States funds to the account of the Company, which transfer has been made prior to or as of the date of delivery of this Form of Subscription pursuant to the instructions of the Company;  
and/or
- to exercise the Warrant with respect to \_\_\_\_\_ shares of Common Stock pursuant to the net exercise provisions specified in Section 2.3 of the Warrant.

2. Please issue a stock certificate or certificates representing the appropriate number of shares of Common Stock in the name of the undersigned or in such other name(s) as is specified below:

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

Address: \_\_\_\_\_

\_\_\_\_\_

TIN: \_\_\_\_\_

Dated: \_\_\_\_\_

\_\_\_\_\_  
(Signature must conform exactly to name of Holder  
as specified on the face of the Warrant)

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FORM OF ASSIGNMENT  
(To be signed only on transfer of Warrant)

For value received, the undersigned hereby sells, assigns, and transfers unto \_\_\_\_\_ the right represented by the within Warrant to purchase \_\_\_\_\_ shares of Common Stock of Oragenics, Inc., a Florida corporation, to which the within Warrant relates, and appoints \_\_\_\_\_ attorney to transfer such right on the books of Oragenics, Inc., with full power of substitution in the premises.

Dated: \_\_\_\_\_

[insert name of Holder]

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

Title: \_\_\_\_\_

[insert address of Holder]

Signed in the presence of:

\_\_\_\_\_

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EXHIBIT A

**Black-Scholes Assumptions**

For the purpose of this Exhibit A:

“Acquiror” means (A) the third party that has entered into definitive documentation for a transaction, or (B) the offeror in the event of a tender or exchange offer, which could reasonably result in a Change of Control upon consummation.

**Underlying Security Price:**

- In the event of a merger or acquisition, (A) in the event of an “all cash” deal, the cash per share offered to the Company’s stockholders by the Acquiror; (B) in the event of an “all stock” deal, (1) in the event of a fixed exchange ratio transaction, the product of (i) the average of the Market Price of the Acquiror’s common stock for the ten trading day period ending on the day preceding the date of the Preliminary Change of Control and (ii) the number of Acquiror’s shares being offered for one share of Common Stock and (2) in the event of a fixed value transaction, the value offered by the Acquiror for one share of Common Stock; (C) in the event of a transaction contemplating various forms of consideration for each share of Common Stock, the cash portion, if any, shall be valued as clause (A) above and the stock portion shall be valued as clause (B) above and any other forms of consideration shall be valued by the Board of Directors of the Company in good faith, without applying any discounts to such consideration.
- In the event of all other Change of Control events, the volume weighted average price of the Common Stock quoted on the New York Stock Exchange or any other U.S. exchange on which the Common Stock is listed, whichever is applicable, as posted by Bloomberg L.P. (or such other reference reasonably relied upon by the Company if not so published for the ten (10) Trading Days beginning on the Trading Day immediately following the Reference Date. The Reference Date shall mean the date of the Preliminary Change of Control.

**Exercise Price:**

The Exercise Price as adjusted and then in effect for the Warrant.

**Dividend Rate:**

The Company’s annualized dividend yield as of the Reference Date.

**Interest Rate:**

The applicable U.S. 5 year treasury note risk free rate as of the Reference Date.

**Model Type:**

Black-Scholes

**Exercise Type:**

American

**Put or Call:**

Call



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<b>Trade Date:</b>	The Reference Date
<b>Expiration Date:</b>	The expiration of the Exercise Period
<b>Settle Date:</b>	The Reference Date plus one Trading Day
<b>Exercise Delay:</b>	0
<b>Volatility:</b>	The 30-day average of the daily volatility (annualized) over the period beginning on and including the Reference Date and ending on the date that is the thirtieth (30) Trading Day prior to the Reference Date, for the Common Stock as obtained from the HVT function on Bloomberg.

Such valuation of the Warrant based on the Black-Scholes methodology shall not be discounted in any way. If the Holder disputes such Black-Scholes valuation pursuant to this *Exhibit A* as calculated by the Company, the Company and the Holder will choose a mutually-agreeable firm to compute the valuation of the Warrant using the guidelines above, and such valuation shall be final. The fees and expenses of such firm shall be borne equally by the Company and the Holder. In the event that a new warrant is issued by a company in a Spin-Off from the Company pursuant to Section 5.1(b) of the Warrant, references in this *Exhibit A* to such spun-off company's "Dividend Rate" and "Volatility" shall refer those of the Company unless at the time of such measurement, such spun-off company has been trading in the public markets for at least 6 months.