

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM S-8**

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

**Millendo Therapeutics, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of Incorporation or organization)

**45-1472564**

(I.R.S. Employer Identification No.)

**301 North Main Street, Suite 100**

**Ann Arbor, Michigan 48104**

(Address of principal executive offices) (Zip code)

**Millendo Therapeutics, Inc. 2012 Stock Plan**

**OvaScience 2012 Stock Incentive Plan**

**New Hire Inducement Stock Option Grants**

**BSA Warrants**

**BSPCE Warrants**

(Full titles of the plans)

**Julia C. Owens, Ph.D.**

**President & Chief Executive Officer**

**301 North Main Street, Suite 100**

**Ann Arbor, Michigan 48104**

**(734) 845-9000**

(Name and address of agent for service) (Telephone number, including area code, of agent for service)

**Copies to:**

**Nicole C. Brookshire**

**Miguel J. Vega**

Cooley LLP

500 Boylston Street, 14<sup>th</sup> Floor

Boston, MA 02116

(617) 937-2300

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
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 7(a)(2)(B) of the Securities Act.

**CALCULATION OF REGISTRATION FEE**

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, par value \$0.001 per share				
Shares issuable upon the exercise of outstanding options granted under the Millendo Therapeutics, Inc. 2012 Stock Plan (the "Millendo Plan")	1,425,247	\$ 10.24(2)	\$ 14,594,529.28	\$ 1,768.86
Shares reserved for future grant under the Millendo Plan	14,691	\$ 16.12(3)	\$ 236,818.92	\$ 28.70
Shares reserved for future grant under the OvaScience 2012 Stock Incentive Plan (the "OvaScience Plan")	447,333	\$ 16.12(3)	\$ 7,211,007.96	\$ 873.97
December 7, 2018 Inducement Awards	74,400(4)	\$ 10.395(5)	\$ 773,388	\$ 93.73
January 15, 2019 Inducement Awards	51,200(4)	\$ 8.80(5)	\$ 450,560	\$ 54.61
January 31, 2019 Inducement Awards	34,100(4)	\$ 10.48(5)	\$ 357,368	\$ 43.31
Shares issuable upon the exercise of outstanding BSA and BSPCE warrants	156,719(6)	\$ 7.26(2)	\$ 1,137,779.94	\$ 137.90
<b>Total:</b>				<b>\$ 3,001.08</b>

- (1) Pursuant to Rule 416(a) promulgated under the Securities Act of 1933, as amended, (the "Securities Act"), this Registration Statement shall also cover any additional shares of Registrant's common stock that become issuable under the plans set forth herein by reason of any stock dividend, stock split, recapitalization, or other similar transaction effected without receipt of consideration that increases the number of outstanding shares of Registrant's common stock, as applicable.
- (2) Estimated in accordance with Rule 457(c) and Rule 457(h) of the Securities Act solely for purposes of calculating the registration fee, and is based upon the weighted-average exercise price of the outstanding options or warrants, as applicable (rounded up to the nearest cent).
- (3) Estimated in accordance with Rule 457(c) and Rule 457(h) of the Securities Act solely for purposes of calculating the registration fee, and is based upon the price of \$16.12 per share, which was the average of the high and low prices of the Registrant's common stock as reported on the Nasdaq Capital Market for April 2, 2019 (rounded up to the nearest cent).
- (4) Represents shares of the Registrant's common stock issuable upon the exercise of new hire inducement stock option awards granted outside of the Millendo Plan and OvaScience Plan to the Registrant's Chief Financial Officer and additional new hires on December 7, 2018, January 15, 2019 and January 31, 2019.
- (5) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(h) promulgated under the Securities Act. The maximum offering price per share and the maximum aggregate offering price are calculated on the basis of \$10.395 per share, \$8.80 per share and \$10.48 per share, the exercise price of the new hire inducement stock option awards granted on December 7, 2018, January 15, 2019 and January 31, 2019, respectively, as a material inducement to the grantees' acceptance of employment with the Registrant in accordance with Rule 5635(e)(4) of the NASDAQ Listing Rules.
- (6) Represents shares of the Registrant's common stock issuable upon the exercise of BSA and BSPCE warrants that were assumed in connection with the December 2017 acquisition of Alizé Pharma SAS.

## EXPLANATORY NOTE

On December 7, 2018, OvaScience, Inc. (the “**Company**,” the “**Registrant**,” “**we**,” “**us**,” or “**our**”) completed its reverse merger with what was then known as “Millendo Therapeutics, Inc.” (“**Private Millendo**”) in accordance with the terms of the Agreement and Plan of Merger and Reorganization dated as of August 8, 2018, as amended on September 25, 2018 and November 1, 2018 (the “**Merger Agreement**”), by and among the Registrant, Private Millendo and Orion Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of the Registrant (“**Merger Sub**”), pursuant to which, among other matters, Merger Sub merged with and into Private Millendo, with Private Millendo continuing as a wholly owned subsidiary of the Registrant (the “**Merger**”). On December 6, 2018, in connection with, and prior to the completion of, the Merger, the Registrant effected a 1-for-15 reverse stock split of its common stock (the “**Reverse Stock Split**”), and immediately following the Merger, the Registrant changed its name to “Millendo Therapeutics, Inc.” Pursuant to the Merger Agreement, each option to purchase shares of Private Millendo Common Stock that was outstanding and unexercised immediately prior to the effective time of the Merger under the Millendo Therapeutics, Inc. 2012 Stock Plan (the “**Millendo 2012 Plan**”), whether or not vested, was converted into and became an option to purchase shares of the Registrant’s common stock, and the Registrant assumed the Millendo 2012 Plan.

The Registrant is also filing this Registration Statement on Form S-8 for the purpose of registering an additional 447,333 shares of the Registrant common stock issuable under the OvaScience 2012 Stock Incentive Plan, which shares were added to the OvaScience 2012 Stock Incentive Plan in connection with the Merger.

The Registrant is also filing this Registration Statement on Form S-8 for the purpose of registering 159,700 shares of the Registrant’s common stock underlying inducement awards in the form of stock option awards granted to the Registrant’s Chief Financial Officer and other employees on December 7, 2018, January 15, 2019 and January 31, 2019, with per share exercise prices of \$10.395, \$8.80 and \$10.48, respectively. The Compensation Committee of the Registrant’s Board of Directors granted the new hire inducement stock option awards outside of, but subject to the terms generally consistent with, the OvaScience Plan, as a material inducement to acceptance of the Chief Financial Officer’s and the other new hires’ employment with the Registrant in accordance with NASDAQ Listing Rule 5635(c)(4).

Finally, the Registrant is also filing this Registration on Form S-8 for the purpose of registering 156,719 shares of the Registrant’s common stock underlying BSA and BSPCE warrants that were assumed by Private Millendo in connection with Private Millendo’s December 2017 acquisition of Alizé Pharma SAS (the “**Acquisition**”). In connection with the Acquisition, the warrants were amended such that upon exercise the holders will receive shares of the Registrant’s common stock.

**PART I**

**INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

The information specified in Part I of Form S-8 is omitted from this Registration Statement in accordance with the provisions of Rule 428 under the Securities Act and the introductory note to Part I of Form S-8. The documents containing the information specified in Part I of Form S-8 will be delivered to the participant in the plans covered by this Registration Statement as specified by Rule 428(b)(1) under the Securities Act.

**PART II**

**ITEM 3. INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE**

The following documents filed by Registrant with the Securities and Exchange Commission (the “SEC”) are incorporated by reference into this Registration Statement:

- (a) The Registrant’s Annual Report on Form 10-K (File No. 001-35890) for the fiscal year ended December 31, 2018, filed with the SEC on April 1, 2019;
- (b) Our Current Reports on Form 8-K filed with the SEC on January 7, 2019, January 22, 2019, February 7, 2019 and March 22, 2019;
- (c) All other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the Registrant’s Annual Report referred to in (a) above; and
- (d) The description of the Registrant’s Common Stock contained in the Company’s registration statement on Form 8-A registering the Registrant’s Common Stock under Section 12 of the Exchange Act filed with the SEC on April 25, 2013, including any amendments or reports filed for purposes of updating such description.

All other reports and documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits furnished on such form that relate to such items) on or after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part of this Registration Statement from the date of the filing of such reports and documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document that also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

**ITEM 4. DESCRIPTION OF SECURITIES**

Not applicable.

**ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL**

Not applicable.

**ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS**

Subsection (a) of Section 145 of the General Corporation Law of the State of Delaware (“DGCL”), empowers a corporation to indemnify any person who was or is a party or who is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise,

against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful.

Subsection (b) of Section 145 empowers a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person acted in any of the capacities set forth above, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 145 further provides that to the extent a director or officer of a corporation has been successful on the merits or otherwise in the defense of any action, suit or proceeding referred to in subsections (a) and (b) of Section 145, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith; that indemnification provided for by Section 145 shall not be deemed exclusive of any other rights to which the indemnified party may be entitled; and the indemnification provided for by Section 145 shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of such person's heirs, executors and administrators. Section 145 also empowers the corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify such person against such liabilities under Section 145.

Section 102(b)(7) of the DGCL provides that a corporation's certificate of incorporation may contain a provision eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL or (iv) for any transaction from which the director derived an improper personal benefit.

The Company's restated certificate of incorporation, as amended, provides that the Company shall indemnify and advance expenses to each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that he or she is or was, or has agreed to become, a director or officer of the Company, or is or was serving, or has agreed to serve, at the request of the Company, as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), liabilities, losses, judgments, fines, and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom.

The Company has indemnification agreements with its directors, in addition to the indemnification provided for in its restated certificate of incorporation, and intends to enter into indemnification agreements with any new directors in the future.

The Company has purchased and intends to maintain insurance on behalf of any person who is or was a director or officer of the Company against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

The foregoing summaries are not intended to be exhaustive and are qualified in their entirety by reference to the complete text of the statute, the Company's restated certificate of incorporation, as amended and the agreements referred to above and are qualified in their entirety by reference thereto.

**ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED**

Not applicable.

**ITEM 8. EXHIBITS**

<u>Exhibit No.</u>	<u>Exhibit</u>
4.1	<a href="#"><u>Restated Certificate of Incorporation of the Registrant (incorporated by reference from Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on April 30, 2013, File No. 001-35890)</u></a>
4.2	<a href="#"><u>Certificate of Amendment to the Restated Certificate of Incorporation of the Registrant (incorporated by reference from Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on December 13, 2018, File No. 001-35890)</u></a>
4.3	<a href="#"><u>Certificate of Amendment to the Restated Certificate of Incorporation of the Registrant (incorporated by reference from Exhibit 3.2 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on December 13, 2018, File No. 001-35890)</u></a>
4.4	<a href="#"><u>Third Amended and Restated Bylaws, as Amended, of the Registrant (incorporated by reference from Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on August 9, 2018 File No. 001-35890)</u></a>
4.5	<a href="#"><u>Specimen Stock Certificate evidencing shares of Common Stock of the Registrant (incorporated by reference from Exhibit 4.1 to the Registration Statement on Form S-1 filed on August 29, 2012, File No. 333-183602)</u></a>
5.1	<a href="#"><u>Opinion of Cooley LLP</u></a>
23.1	<a href="#"><u>Consent of Ernst &amp; Young LLP, independent registered public accounting firm</u></a>
23.2	<a href="#"><u>Consent of Cooley LLP (included in Exhibit 5.1)</u></a>
24.1	<a href="#"><u>Power of Attorney (included on the signature page of this Form S-8)</u></a>
99.1	<a href="#"><u>Millendo Therapeutics, Inc. 2012 Stock Plan, as amended (incorporated by reference from Exhibit 10.8 to the Annual Report on Form 10-K filed on April 1, 2019, File No. 001-35890)</u></a>
99.2	<a href="#"><u>OvaScience, Inc. 2012 Stock Incentive Plan (incorporated by reference from Exhibit 10.5 to the Registration Statement on Form 10 filed on April 11, 2012, File No. 000-54647)</u></a>
99.3	<a href="#"><u>Sub Plan for French Residents to the Millendo Therapeutics, Inc. 2012 Stock Plan, as amended (incorporated by reference from Exhibit 10.5 to the Current Report on Form 8-K, as filed with the Securities and Exchange Commission on December 13, 2018, File No. 001-35890)</u></a>

**ITEM 9. UNDERTAKINGS**

1. The undersigned registrant hereby undertakes:

(a) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*Provided, however,* that paragraphs (a)(i) and (a)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to section 13 or section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(b) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

2. The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

3. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Ann Arbor, State of Michigan, on April 5<sup>th</sup>, 2019.

### MILLENDO THERAPEUTICS, INC.

/s/ Julia C. Owens, Ph.D.

Julia C. Owens, Ph.D.

*President & Chief Executive Officer*

## POWER OF ATTORNEY

**KNOW ALL PERSONS BY THESE PRESENTS**, that each person whose signature appears below constitutes and appoints Julia C. Owens and Louis Arcudi III, jointly and severally, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ JULIA C. OWENS, PH.D.</u> Julia C. Owens, Ph.D.	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	April 5, 2019
<u>/s/ LOUIS ARCUDI III</u> Louis Arcudi III	Chief Financial Officer <i>(Principal Financial Officer and Principal Accounting Officer)</i>	April 5, 2019
<u>/s/ CAROL G. GALLAGHER</u> Carol G. Gallagher, Pharm.D.	Chair of the Board	April 5, 2019
<u>/s/ MARY LYNNE HEDLEY, PH.D.</u> Mary Lynne Hedley, Ph.D.	Director	April 5, 2019
<u>/s/ CAROLE NUECHTERLEIN</u> Carole Nuechterlein, J.D.	Director	April 5, 2019
<u>/s/ JOHN HOWE, III, M.D.</u> John Howe, III, M.D.	Director	April 5, 2019

/s/ RANDALL W. WHITCOMB, M.D. Director April 5, 2019  
Randall W. Whitcomb, M.D.

/s/ JAMES HINDMAN Director April 5, 2019  
James Hindman

/s/ HABIB J. DABLE Director April 5, 2019  
Habib J. Dable



Nicole C. Brookshire  
+1 617 937 2357  
nbrookshire@cooley.com

April 5, 2019

**Millendo Therapeutics, Inc.**  
**301 North Main Street, Suite 100**  
**Ann Arbor, Michigan 48104**

**Re: Registration on Form S-8**

Ladies and Gentlemen:

We have acted as counsel to Millendo Therapeutics, Inc., a Delaware corporation (the "*Company*"), in connection with the filing of a registration statement on Form S-8 (the "*Registration Statement*") with the Securities and Exchange Commission covering the offering of up to 2,203,690 shares of the Company's Common Stock, par value \$0.001 per share, including (a) 447,333 shares of Common Stock (the "*OvaScience 2012 Shares*") pursuant to the OvaScience 2012 Stock Incentive Plan, as amended (the "*OvaScience 2012 Plan*"), (b) 1,439,938 shares of Common Stock (the "*Millendo 2012 Shares*") pursuant to the Millendo Therapeutics, Inc. 2012 Stock Plan (the "*Millendo 2012 Plan*"), (c) 159,700 shares of Common Stock issuable under new hire inducement stock option awards granted by the Company on December 7, 2018, January 15, 2019 and January 31, 2019 (the "*Inducement Shares*"), pursuant to the terms of stock option grant notices and nonstatutory stock option agreements, and (d) 156,719 shares of Common Stock issuable upon the exercise of outstanding warrants (the "*Warrant Shares*") (such warrants and agreements, together with the OvaScience 2012 Plan and the Millendo 2012 Plan, the "*Plans*").

In connection with this opinion, we have examined and relied upon the Registration Statement and related prospectuses, the Company's Amended and Restated Certificate of Incorporation and Bylaws, as currently in effect, the Plans and the originals or copies certified to our satisfaction of such other records, documents, certificates, memoranda and other instruments as we deem necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals and the conformity to originals of all documents submitted to us as copies thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought independently to verify such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the OvaScience 2012 Shares, the Millendo 2012 Shares, the Inducement Shares, and the Warrant Shares, when

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April 5, 2019

sold and issued in accordance with their respective Plans, the Registration Statement and related prospectuses, will be validly issued, fully paid, and nonassessable.

We consent to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

**COOLEY LLP**

By: /s/ Nicole C. Brookshire  
Nicole C. Brookshire

Cooley LLP 500 Boylston Street Boston, MA 02116-3736  
t: (617) 937-2300 f: (617) 937-2400 cooley.com

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Millendo Therapeutics, Inc. 2012 Stock Plan, OvaScience 2012 Stock Incentive Plan, New Hire Inducement Stock Option Grants, BSA Warrants, and BSPCE Warrants of Millendo Therapeutics, Inc. of our report dated March 29, 2019, with respect to the consolidated financial statements of Millendo Therapeutics, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2018, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Grand Rapids, Michigan

April 4, 2019

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