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

FORM S-8
REGISTRATION STATEMENT
Under
THE SECURITIES ACT OF 1933

ACER THERAPEUTICS INC.
(Exact name of registrant as specified in its charter)

Texas
(State or other jurisdiction of incorporation or organization)

76-0333165
(I.R.S. Employer Identification No.)

222 Third Street, Suite #2240, Cambridge, Massachusetts
(Address of principal executive offices)

02142
(Zip Code)

Acer Therapeutics Inc. Amended and Restated 2010 Stock Incentive Plan
Acer Therapeutics Inc. 2013 Stock Incentive Plan, as amended
(Full title of the plan)

Chris Schelling
President and Chief Executive Officer
Acer Therapeutics Inc.
222 Third Street, Suite 2240
Cambridge, MA 02142
(Name and address agent for service)

(844) 902-6100
(Telephone number, including area code, of agent for service)

Copy to:
Mike Hird, Esq.
Patty M. DeGaetano, Esq.

Pillsbury Winthrop Shaw Pittman LLP
12255 El Camino Real, Suite 300
San Diego, California 92130
(619) 234-5000

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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.

4834-8624-9297.v3

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, \$.01 par value:				
Amended and Restated 2010 Stock Incentive Plan (issued)	273,600 ⁽²⁾	\$15.54 ⁽³⁾	\$4,251,744.00	\$529.34
Amended and Restated 2010 Stock Incentive Plan (available)	196,400 ⁽⁴⁾	\$17.79 ⁽⁵⁾	\$3,493,956.00	\$435.00
2013 Stock Incentive Plan, as amended (issued)	165,000 ⁽²⁾	\$3.92 ⁽³⁾	\$646,800.00	\$ 80.53

⁽¹⁾ Pursuant to Rule 416(a) under the Securities Act of 1933 (the “Securities Act”), this registration statement also covers an indeterminate number of additional shares of common stock to be offered or sold pursuant to the above-named plan that may be issued as a result of the anti-dilution and other adjustment provisions therein by reason of certain corporate transactions or events, including any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration which results in an increase in the number of the registrant’s outstanding shares of common stock.

⁽²⁾ Represents shares of common stock subject to stock options that are outstanding as of the date this Registration Statement is being filed.

⁽³⁾ Estimated in accordance with Rule 457(h) solely for the purpose of calculating the registration fee on the basis of the weighted average exercise price of outstanding stock awards.

⁽⁴⁾ Represents shares of common stock available for grant as of the date this Registration Statement is being filed.

⁽⁵⁾ Computed in accordance with Rules 457(c) and (h) under the Securities Act, solely for the purpose of calculating the registration fee, based on the average of the high and low prices of the common stock as reported on the Nasdaq Capital Market on November 10, 2017.

The Registration Statement shall become effective upon filing in accordance with Rule 462 under the Securities Act.

EXPLANATORY NOTE

On September 19, 2017, Acer Therapeutics Inc., formerly known as Opexa Therapeutics, Inc. (the “Registrant,” “we,” “us” or “our”), completed its business combination with what was then known as Acer Therapeutics Inc. (“Private Acer”) in accordance with the terms of the Agreement and Plan of Merger and Reorganization, dated as of June 30, 2017, by and among the Registrant, Opexa Merger Sub, Inc., a wholly owned subsidiary of the Registrant (“Merger Sub”), and Private Acer (the “Merger Agreement”), pursuant to which Merger Sub merged with and into Private Acer, with Private Acer surviving as a wholly owned subsidiary of the Registrant (the “Merger”). Pursuant to the Merger Agreement, each option to purchase shares of Private Acer common stock that was outstanding and unexercised immediately prior to the effective time of the Merger under the Acer Therapeutics Inc. 2013 Stock Incentive Plan (the “2013 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 2013 Plan.

The Registrant is also filing this Registration Statement on Form S-8 for the purpose of registering an additional 470,000 shares of common stock issuable to eligible persons under the Acer Therapeutics Inc. 2010 Amended and Restated Stock Incentive Plan, as amended.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3: Incorporation of Documents by Reference

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

- (a) Annual Report on Form 10-K for the fiscal year ended December 31, 2016.
- (b) Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2017, June 30, 2017 and September 30, 2017.
- (c) Current Reports on Form 8-K filed on February 1, 2017, April 14, 2017, May 22, 2017, July 3, 2017, July 19, 2017, August 9, 2017, September 11, 2017, September 20, 2017, October 5, 2017 (except Item 7.01) and November 14, 2017.
- (d) Prospectus filed on August 11, 2017 pursuant to Rule 424(b) under the Securities Act, relating to the Registration Statement on Form S-4, as amended, declared effective August 10, 2017 (File No. 333-219358), which contains audited financial statements of Private Acer as of December 31, 2016 and 2015, the two latest fiscal years for which such statements have been filed, and pro forma financial information for the three months ended March 31, 2017, including all material incorporated by reference therein.
- (e) The description of the Registrant’s Common Stock contained in the Registration Statement on Form 8-A (File No. 001-33004) filed on August 30, 2006, including any amendment or report filed for the purpose of updating such description.

In addition, all documents filed by Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, (excluding any portions thereof furnished by the Registrant, including but not limited to information furnished under Item 2.02 and Item 7.01 and any exhibits relating to Item 2.02 or Item 7.01 furnished under Item 9.01 of Form 8-K and any certification required by 18 U.S.C. § 1350), on or after the date of this Registration Statement, prior to the filing of a post-effective amendment 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 in this registration statement and to be a part hereof from the date of filing of such documents.

Any statement contained in this Registration Statement or in a document incorporated by reference in this Registration Statement shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in this Registration Statement or in any subsequently filed document that is deemed to be incorporated by reference in this Registration Statement modifies or supersedes such statements.

Item 4: Description of Securities.

None

Item 5: Interests of Named Experts and Counsel.

Not applicable

Item 6: Indemnification of Directors and Officers.

Section 8.101 of the Texas Business Organizations Code, or the TBOC, authorizes Acer to indemnify certain persons, including any person who was, is or is threatened to be made a named defendant or respondent in a threatened, pending or completed action or other proceeding, because the person is or was a director or officer, against judgments and reasonable expenses actually incurred by the person in connection with the threatened, pending or completed action or other proceeding. Acer is required by Section 8.051 of the TBOC to indemnify a director or officer against reasonable expenses actually incurred by him or her in connection with a threatened, pending, or completed action or other proceeding in which he or she is a named defendant or respondent because he or she is or was a director or officer if he or she has been wholly successful, on the merits or otherwise, in the defense of the action or proceeding.

Acer's restated certificate of formation, as amended, provides that none of its directors shall be personally liable to Acer or its shareholders for monetary damages for an act or omission in such director's capacity as a director; provided, however, that the liability of such director is not limited to the extent that such director is found liable for (i) a breach of the director's duty of loyalty to Acer or its shareholders, (ii) an act or omission not in good faith that constitutes a breach of duty of the director to Acer or an act or omission that involves intentional misconduct or a knowing violation of the law, (iii) a transaction from which the director received an improper benefit, whether or not the benefit resulted from an action taken within the scope of the director's office, or (iv) an act or omission for which the liability of the director is expressly provided by an applicable statute.

Acer's restated certificate of formation, as amended, and amended and restated bylaws, as amended, provide that Acer shall indemnify its officers, directors, agents and any other persons to the fullest extent permitted by applicable law. Acer's directors and officers are covered by insurance indemnifying them against certain liabilities which might be incurred by them in their capacities as such.

At the present time, there is no pending litigation or proceeding involving a director, officer, employee or other agent of Acer in which indemnification would be required or permitted. Acer is not aware of any threatened litigation or proceeding which may result in a claim for such indemnification.

Item 7: Exemption From Registration Claimed.

Not applicable

Item 8: Exhibits.

Exhibit No.	Description
4.1	Specimen Common Stock Certificate of Acer Therapeutics Inc. (incorporated by reference to Exhibit 4.1 to Acer's Quarterly Report on Form 10-Q filed on November 13, 2017).
5.1	Opinion of Pillsbury Winthrop Shaw Pittman LLP.
23.1	Consent of Wolf & Company, P.C., independent registered public accounting firm.
23.2	Consent of MaloneBailey, LLP, independent registered public accounting firm.
23.3	Consent of Pillsbury Winthrop Shaw Pittman LLP (included in Exhibit 5.1).
24.1	Power of Attorney (contained on signature page hereto).
99.1	Acer Therapeutics Inc. Amended and Restated 2010 Stock Incentive Plan (incorporated by reference to Appendix A to Acer's Definitive Proxy Statement on Schedule 14A filed on April 11, 2016).*
99.2	Amendment No. 1 to Acer Therapeutics Inc. Amended and Restated 2010 Stock Incentive Plan (incorporated by reference to Exhibit 10.35 to Acer's Registration Statement on Form S-4, as amended, (File No. 333-219358) filed on July 19, 2017).*
99.3	Form of restricted stock agreement for awards to be made under the Acer Therapeutics Inc. Amended and Restated 2010 Stock Incentive Plan (incorporated by reference to Exhibit 10.3 to Acer's Quarterly Report on Form 10-Q filed on May 12, 2015).*
99.4	Form of award agreement for awards to be made under the Acer Therapeutics Inc. Amended and Restated 2010 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 of Acer's Quarterly Report on Form 10-Q filed August 14, 2014).*
99.5	Acer Therapeutics Inc. 2013 Stock Incentive Plan, as amended (incorporated by reference to Exhibit 10.3 of Acer's Current Report on Form 8-K filed on September 20, 2017).

*Note that the name of this plan has been amended to reflect the current name of the Registrant.

Item 9: Undertakings.

(a) The undersigned Registrant hereby undertakes:

(1) 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 this 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 Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

- (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)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) 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 therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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

(b) 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 this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) 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 Commission 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, 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 Cambridge, state of Massachusetts, on November 14, 2017.

ACER THERAPEUTICS INC.

By: /s/ Chris Schelling
Chris Schelling
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Chris Schelling and Harry Palmin, and/or either of them, 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 to this Registration Statement on Form S-8, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or his 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>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Chris Schelling</u> Chris Schelling	President, Chief Executive Officer and Director (<i>Principal Executive Officer</i>)	November 14, 2017
<u>/s/ Harry Palmin</u> Harry Palmin	Chief Financial Officer (<i>Principal Financial and Accounting Officer</i>)	November 14, 2017
<u>/s/ Steve Aselage</u> Steve Aselage	Director	November 14, 2017
<u>/s/ Jason Amello</u> Jason Amello	Director	November 14, 2017
<u>/s/ Hubert Birner</u> Hubert Birner, Ph.D.	Director	November 14, 2017

/s/ John Dunn Director
John Dunn

November 14, 2017

/s/ Michelle Griffin Director
Michelle Griffin

November 14, 2017

/s/ Luc Marengere Director
Luc Marengere, Ph.D.

November 14, 2017