
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM S-3

**REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

CERECOR INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

45-0705648

(I.R.S. Employer Identification Number)

**400 E. Pratt Street, Suite 606
Baltimore, Maryland 21202
(410) 522-8707**

(Address, including zip code, and telephone number, including area code of registrant's principal executive offices)

**Uli Hacksell, Ph.D.
President and Chief Executive Officer
Cerecor Inc.**

**400 E. Pratt Street, Suite 606
Baltimore, Maryland 21202
(410) 522-8707**

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

Copies to:

**Brent B. Siler
Cooley LLP
1299 Pennsylvania Avenue, NW
Suite 700
Washington, DC 20004
(202) 842-7800**

**From time to time after the effective date of this Registration Statement
(Approximate date of commencement of proposed sale to the public)**

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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 Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company) 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 each class 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 \$0.01 per share	2,941,150 shares	\$ 0.58 (2)	\$ 1,705,867 (2)	\$ 197.71
Common stock, par value \$0.01 per share, underlying shares of Series A Convertible Preferred Stock (3)	11,940,000 shares	\$ 0.58 (2)	\$ 6,925,200 (2)	\$ 802.63
Common stock, par value \$0.01 per share, issuable upon the exercise of warrants (4)	14,285,714 shares	\$ 0.58 (2)	\$ 8,282,714 (2)	\$ 960.31
Total	29,166,864 shares		\$ 16,916,781	\$ 1,960.65

(1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, or the Securities Act, the shares being registered hereunder include such indeterminate number of shares of common stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

(2) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(c) under the Securities Act. The price per share and aggregate offering price are based on the average of the high and low prices of the Registrant's common stock on May 24, 2017, as reported on the NASDAQ Capital Market.

(3) Represents shares issuable upon the conversion of shares of Series A Convertible Preferred Stock, with each share of Series A Convertible Preferred Stock having a stated value of \$1,000 per share and a fixed conversion price into shares of common stock of \$0.35 per share.

(4) Represents shares issuable upon the exercise of warrants, with each warrant having a fixed exercise price of \$0.40 per share.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. The selling stockholder may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, Dated May 26, 2017

PRELIMINARY PROSPECTUS



29,166,864 Shares of Common Stock

This prospectus relates to the resale from time to time of up to 2,345,714 shares of our common stock, as well as 11,940,000 shares of our common stock that are issuable upon the conversion of our Series A Convertible Preferred Stock and 14,285,714 shares of our common stock that are issuable upon the exercise of outstanding warrants to purchase our common stock, that we sold to Armistice Capital Master Fund Ltd., or Armistice, in connection with a private placement completed on April 27, 2017, or the private placement, and (ii) up to 595,436 shares of our common stock owned by Apple Tree Partners IV, L.P. or Apple Tree. We refer to Armistice and Apple Tree as the selling stockholders. The Series A Convertible Preferred Stock owned by Armistice will be convertible into common stock, and the warrants held by Armistice will be exercisable, only after approval of the private placement by our stockholders as required by the rules and regulations of the NASDAQ Capital Market.

We are not selling any shares of common stock and will not receive any proceeds from the sale of the shares under this prospectus. Upon the exercise of the warrants held by Armistice for 14,285,714 shares of our common stock by payment of cash, however, we will receive the exercise price of the warrants, which is \$0.40 per share, or an aggregate of approximately \$5.7 million. We have agreed to bear all of the expenses incurred in connection with the registration of these shares. The selling stockholders will pay or assume brokerage commissions and similar charges, if any, incurred for the sale of shares of our common stock.

The selling stockholders may sell the shares described in this prospectus in a number of different ways and at varying prices. We provide more information about how the selling stockholders may sell their shares of common stock in the section entitled "Plan of Distribution" on page 9. We will not be paying any underwriting discounts or commissions in this offering.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

Our common stock is traded on the NASDAQ Capital Market under the symbol "CERC." On May 24, 2017, the last reported sales price of our common stock was \$0.57 per share.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" beginning on page 5 of this prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is May 26, 2017.

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ABOUT THIS PROSPECTUS

You should rely only on the information contained or incorporated by reference in this prospectus. We have not, and the selling stockholders have not, authorized anyone to provide you with information different from that contained in this prospectus. The selling stockholders are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where it is lawful to do so. The information in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of our common stock.

PROSPECTUS SUMMARY

This summary highlights selected information from this prospectus and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, the applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading “Risk Factors” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.

Unless the context indicates otherwise, references in this prospectus to “Cerecor,” “company,” “we,” “us” and “our” refer to Cerecor Inc.

Company Overview

We are a biopharmaceutical company that is developing innovative drug candidates to make a difference in the lives of patients with neurological and psychiatric disorders. We have a portfolio of clinical and preclinical compounds that we believe are best in class due to their unique mechanism of action and where human proof of concept has been established for the compound or the target. At March 31, 2017, we had \$3.0 million in cash and cash equivalents and \$2.7 million in current liabilities. On April 27, 2017, we raised gross proceeds of \$5.0 million from the private placement. We do not have sufficient funds to finance our continuing operations beyond the short term. We must secure additional financing to further advance any of our product candidates, including our planned initiation of a Phase 2/3 clinical trial with CERC-501 as an adjunctive treatment of major depressive disorder, or MDD and our plan to commence Phase 1 development of CERC-611 in the next year. Other than three third-party sponsored trials of CERC-501, we do not have any ongoing clinical trials of our product candidates and we do not currently have the capital to undertake any such trials. We have filed an investigational new drug application for CERC-611, but we would require additional funding to advance it into clinical trials.

CERC-501 is a potent and selective kappa opioid receptor, or KOR, antagonist being developed as an adjunctive treatment of MDD. KORs are believed to play key roles in modulating stress, mood and addictive behaviors. We plan to initiate a Phase 2/3 clinical study in inadequately treated subjects with MDD currently on antidepressants in the next year, subject to the availability of additional funding. Currently, three externally funded clinical trials are being conducted to evaluate the use of CERC-501 in treating depressive symptoms, stress-related smoking relapse and cocaine addiction. One trial is being conducted under the auspices of the National Institute of Mental Health, the second trial is a collaboration between Cerecor and Yale University with funding from the National Institutes of Health and the third trial is being conducted at Rockefeller University Hospital with funding from a private foundation.

CERC-611 is a potent and selective transmembrane AMPA receptor regulatory proteins, or TARP, γ -8-dependent α -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor antagonist, which we plan to develop as an adjunctive therapy for the treatment of partial-onset seizures, with or without secondarily generalized seizures, in patients with epilepsy. We have filed an investigational new drug application for CERC-611, but we would require additional funding to advance it into clinical trials.

CERC-301 is an oral, NR2B specific N-methyl-D-aspartate, or NMDA, receptor antagonist being developed as an adjunctive treatment of MDD. CERC-301 belongs to a class of compounds known as antagonists, or inhibitors, of the NMDA receptor, a receptor subtype of the glutamate neurotransmitter system that is responsible for controlling neurological adaptation. We believe CERC-301 has the potential to produce a significant reduction in depression symptoms in a matter of days, as compared to weeks or months with conventional therapies, because it specifically blocks the NMDA receptor subunit 2B, or NR2B. We believe this mechanism of action may provide rapid and significant antidepressant activity without the adverse side effect profile of non-selective NMDA receptor antagonists, such as ketamine. We are currently evaluating the most optimal development path forward for this drug candidate.

CERC-406 is our lead preclinical candidate from our proprietary platform of compounds that inhibit catechol-O-methyltransferase, or COMT, within the brain, which we refer to as our COMTi platform. We intend to develop CERC-406 for the treatment of residual cognitive impairment symptoms in patients with MDD, subject to the availability of additional funding.

Further development of our product candidates will not be possible unless we secure additional funding. Our strategy is to seek funding for our operations from further offerings of equity and debt securities, non-dilutive financing arrangements such as federal grants, collaboration agreements or out-licensing arrangements, and to explore strategic alternatives such as an acquisition, merger, or business combination. However, we may be unable to raise additional funds or enter into such other agreements or

transactions on favorable terms, or at all. If we fail to raise capital or enter into such other arrangements or transactions in the short term, we will have to significantly delay, scale back or discontinue the development and/or commercialization of one or more of our product candidates or cease our operations altogether.

Private Placement

On April 27, 2017, we entered into a securities purchase agreement with Armistice, pursuant to which Armistice agreed to purchase \$5.0 million of our securities in a private placement, consisting of 2,345,714 shares of our common stock at a purchase price of \$0.35 per share and 4,179 shares of our newly created Series A Convertible Preferred Stock, which shares of preferred stock will be convertible into 11,940,000 shares of our common stock if our stockholders approve the private placement pursuant to the rules and regulations of the NASDAQ Capital Market. Armistice also received warrants to purchase up to 14,285,714 shares of our common stock at an exercise price at \$0.40 per share, which will become exercisable if the stockholders approve the private placement. The number of shares of common stock to be received by Armistice upon conversion of the Series A Convertible Preferred Stock or exercise of the warrants, and the purchase price of such shares, will be adjusted for stock splits, stock dividends, combinations, reclassifications or other recapitalizations affecting our common stock.

As long as Armistice maintains beneficial ownership of at least 13% of our outstanding common stock, Armistice, exclusively and as a separate class, shall be entitled to designate two directors to our Board of Directors. On May 12, 2017, our Board of Directors appointed Steven J. Boyd and Peter Greenleaf to our Board of Directors, each of whom has been designated by Armistice pursuant to this right.

Corporate Information

We were incorporated as Ceregen Corporation in Delaware on January 31, 2011, and we subsequently changed our name to Cerecor Inc. Our principal executive offices are located at 400 E. Pratt Street, Suite 606, Baltimore, Maryland 21202 and our telephone number is (410) 522-8707. Our website address is www.cerecor.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

The trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners. We do not intend our use or display of other companies' trademarks, trade names or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other companies or products.

Implications of Being an Emerging Growth Company

As a company with less than \$1.0 billion in revenue during our last fiscal year, we qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from specified disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We may take advantage of these provisions through 2020 or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company if we have more than \$1.0 billion in annual revenues, have more than \$700 million in market value of our capital stock held by non-affiliates or issue more than \$1.0 billion of non-convertible debt over a

three-year period. We may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of some reduced reporting burdens in this prospectus and the documents incorporated by reference into this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

THE OFFERING

The following is a brief summary of the offering. You should read the entire prospectus carefully, including “Risk Factors” and the information, including financial information relating to Cerecor Inc., included in our filings with the Securities and Exchange Commission, or SEC, and incorporated in this prospectus by reference.

Common stock to be offered by the selling stockholders	Up to 29,166,854 shares, including 11,940,000 shares of our common stock that are issuable upon the conversion of our Series A Convertible Preferred Stock owned by Armistice and 14,285,714 shares of our common stock that are issuable upon the exercise of warrants held by Armistice at an exercise price of \$0.40 per share.
Common stock outstanding	14,081,453 shares
Use of Proceeds	We will not receive any proceeds from the sale of shares in this offering, but we will receive the exercise price of the warrants at the time of exercise, which is \$0.40 per share.
NASDAQ Capital Market symbol	CERC
Risk Factors	See “Risk Factors” and other information included in this prospectus for a discussion of the factors you should consider before deciding to invest in shares of our common stock.

The number of shares of common stock outstanding is based on an aggregate of 14,081,453 shares outstanding as of May 11, 2017, and excludes:

- 2,054,674 shares of common stock issuable upon the exercise of options outstanding as of May 11, 2017 at a weighted average exercise price of \$5.06 per share;
- 824,415 shares of common stock reserved for future issuance under the 2016 Equity Incentive Plan as of May 11, 2017;
- 574,341 shares of common stock reserved for future issuance under the Employee Stock Purchase Plan as of May 11, 2017;
- 11,940,000 shares of common stock issuable upon the conversion of the Series A Convertible Preferred Stock issued in the private placement; and
- 19,001,143 shares of common stock issuable upon the exercise of warrants outstanding as of May 11, 2017, including 14,285,714 shares of common stock issuable upon the exercise of warrants issued in the private placement.

Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding options under our 2016 Equity Incentive Plan or Employee Stock Purchase Plan and no conversion of the Series A Convertible Preferred Stock described above.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described in the section entitled “Risk Factors” contained in our Annual Report on Form 10-K for the year ended December 31, 2016, as filed with the Securities and Exchange Commission, or SEC, on March 14, 2017, and our Quarterly Report on Form 10-Q for the three months ended March 31, 2017, as filed with the SEC on May 9, 2017, which descriptions are incorporated in this prospectus by reference in their entirety, as well as in any prospectus supplement hereto. These risks and uncertainties are not the only risks and uncertainties we face. Additional risks and uncertainties not currently known to us, or that we currently view as immaterial, may also impair our business. If any of the risks or uncertainties described in our SEC filings or any additional risks and uncertainties actually occur, our business, financial condition, results of operations and cash flow could be materially and adversely affected. In that case, the trading price of our common stock could decline and you might lose all or part of your investment.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference contain forward-looking statements. These are based on our management’s current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to us. Discussions containing these forward-looking statements may be found, among other places, in the Sections entitled “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” incorporated by reference from our most recent Annual Report on Form 10-K and in our Quarterly Reports on Form 10-Q, as well as any amendments thereto, filed with the SEC.

Any statements in this prospectus, or incorporated herein, about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward-looking statements. Within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Exchange Act, these forward-looking statements include, but are not limited to, statements regarding:

- our estimates regarding our expenses, future revenues, anticipated capital requirements and our needs for additional financing;
- our ability to advance our product candidates into, and successfully complete, clinical trials and the anticipated timing of such clinical trials;
- the rate and degree of market acceptance and clinical utility of our product candidates;
- the size and potential growth of the markets for any of our product candidates and our ability to impact the size of those markets;
- our expectations regarding the potential safety, efficacy or clinical utility of our product candidates, particularly in comparison to our competitors’ products and product candidates;
- our commercialization, marketing and manufacturing capabilities and strategy;
- the timing of the initiation, progress and results of clinical trials, preclinical studies and research and development programs;
- market and industry trends;
- our expectations with respect to future growth and investments in our infrastructure, and our ability to effectively manage any such growth;
- our intellectual property position;
and
- our ability to identify additional products or product candidates with significant commercial potential that are consistent with our commercial objectives.

In some cases, you can identify forward-looking statements by the words “may,” “might,” “can,” “will,” “to be,” “could,” “would,” “should,” “expect,” “intend,” “plan,” “objective,” “anticipate,” “believe,” “estimate,” “predict,” “project,” “potential,” “likely,” “continue” and “ongoing,” or the negative of these terms, or other comparable terminology intended to identify statements about the future, although not all forward-looking statements contain these words. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements.

You should refer to the “Risk Factors” section contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus, for a discussion

of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. Given these risks, uncertainties and other factors, many of which are beyond our control, we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate, and you should not place undue reliance on these forward-looking statements. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified timeframe, or at all.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this prospectus, even if new information becomes available in the future.

USE OF PROCEEDS

We are not selling any common stock under this prospectus and will not receive any of the proceeds from the sale of shares by the selling stockholders. Upon the exercise of the warrants for 14,285,714 shares of our common stock by payment of cash, however, we will receive the exercise price of the warrants, which is \$0.40 per share, or an aggregate of approximately \$5.7 million. The warrants will be exercisable only after approval of the private placement by our stockholders as required by the rules and regulations of the NASDAQ Capital Market. We intend to use the proceeds from the exercise of the warrants to prepare for the initiation of clinical trials for CERC-501 and CERC-611 and for working capital and general corporate purposes.

The selling stockholders will pay any underwriting discounts and commissions and expenses incurred by them for brokerage, accounting, tax or legal services or any other expenses incurred in disposing of the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees, NASDAQ Capital Market listing fees and fees and expenses of our counsel and our auditors.

SELLING STOCKHOLDERS

In connection with the completion of the private placement in April 2017, we issued 2,345,714 shares of our common stock to Armistice, as well as 4,179 shares of our Series A Convertible Preferred Stock, which shares of preferred stock are convertible into 11,940,000 shares of our common stock, and warrants to purchase up to 14,285,714 shares of our common stock. Pursuant to the private placement, we agreed to file a registration statement, of which this prospectus is a part, with the SEC to register the disposition of the shares of our common stock issued to Armistice, or issuable to Armistice upon the conversion of the Series A Convertible Preferred Stock and the exercise of the warrants. The Series A Convertible Preferred Stock will be convertible into common stock, and the warrants will be exercisable, only after approval of the private placement by our stockholders as required by the rules and regulations of the NASDAQ Capital Market. We are also registering 595,436 shares of common stock owned by Apple Tree.

The following table sets forth the name of the selling stockholders for whom we are registering shares for sale to the public, the number of shares of our common stock owned by the selling stockholders prior to this offering, the percentage of common stock owned by the selling stockholders prior to this offering, the number of shares of our common stock being offered pursuant to this prospectus, the number of shares of our common stock to be owned upon completion of this offering, assuming all such shares are sold, and the percentage of common stock owned by the selling stockholders after this offering, assuming all such shares are sold.

This table is prepared based on information supplied to us by the selling stockholders and reflects holdings as of May 16, 2017. As used in this prospectus, the term "selling stockholder" includes the selling stockholders listed below, and any donees, pledges, transferees or other successors in interest selling shares received after the date of this prospectus from the selling stockholders as a gift, pledge, or other non-sale related transfer. The number of shares in the column "Number of Shares Being Offered" represents all of the shares that the selling stockholders may offer under this prospectus. The selling stockholders may sell some, all or none of their shares. The selling stockholders may sell or transfer all or a portion of their shares of our common stock pursuant to an available exemption from the registration requirements of the Securities Act; however, the Series A Convertible Preferred Stock owned by Armistice is not convertible into common stock, and the warrants held by Armistice are not exercisable, until our stockholders approve the private placement. We do not know how long the selling stockholders will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale of any of the shares.

Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the SEC under the Exchange Act. The percentage of shares beneficially owned prior to the offering is based on 14,081,453 shares of our common stock outstanding as of May 11, 2017, including the shares of our common stock issued to Armistice in the private placement.

Security Holder	Shares of Common Stock Beneficially Owned Prior to Offering		Number of Shares Being Offered	Shares of Common Stock Beneficially Owned After Offering	
	Number	Percent		Number	Percent
Armistice Capital Master Fund Ltd (1)	29,585,714	73.4%	2,857,428 (2)	1,014,286	2.5%
Apple Tree Partners IV, L.P. (3)	595,436	4.2%	595,436	—	—%

- (1) Armistice Capital, LLC is an investment manager to Armistice, and Steven J. Boyd, the chief investment officer of Armistice Capital, LLC, may be deemed to have voting and investment power with respect to the securities held by Armistice. Mr. Boyd serves on our Board of Directors. Armistice's address is c/o Armistice Capital, LLC, 510 Madison Ave, 22nd Floor, New York, NY 10022.
- (2) Includes (i) 11,940,000 shares of common stock issuable upon conversion of shares of Series A Convertible Preferred Stock and (ii) 14,285,714 shares of common stock issuable upon the exercise of warrants.
- (3) ATP III GP, Ltd. is the sole general partner of Apple Tree and may be deemed to have voting and investment power with respect to the securities held by Apple Tree. Apple Tree's address is 47 Hulfish Street, Suite 441, Princeton, NJ 08542.

PLAN OF DISTRIBUTION

We are registering the shares of common stock issued or issuable to the selling stockholders to permit the resale of these shares by the selling stockholders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares; however, we will receive the exercise price of the warrants held by Armistice, which is \$0.40 per share, or an aggregate of approximately \$5.7 million. The Series A Convertible Preferred Stock owned by Armistice will be convertible into common stock, and the warrants held by Armistice will be exercisable, only after approval of the private placement by our stockholders as required by the rules and regulations of the NASDAQ Capital Market. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

The selling stockholders of the common stock and any of its pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their shares of common stock covered hereby on the NASDAQ Capital Market or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or negotiated prices. A selling stockholder may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;

- in transactions through broker-dealers that agree with the selling stockholder to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- gifts to charitable organizations, who may in turn sell such shares in accordance with the methods described herein;
- a combination of any such methods of sale;
or
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440-1.

In connection with the sale of the common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of the common stock short and deliver these securities to close out its short positions or to return borrowed shares in connection with such short sales, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). Notwithstanding the foregoing, the selling stockholders have been advised that they may not use shares registered on this registration statement to cover short sales of our common stock made prior to the date the registration statement, of which this prospectus forms a part, has been declared effective by the SEC.

The selling stockholders and any broker-dealers or agents that are involved in selling the shares may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. If a selling stockholder is an “underwriter” within the meaning of Section 2(11) of the Securities Act, it will be subject to the prospectus delivery requirements of the Securities Act and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act. Each selling stockholder has informed us that it is not a registered broker-dealer and does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the common stock. In no event shall any broker-dealer receive fees, commissions and markups which, in the aggregate, would exceed eight percent (8%).

We are required to pay certain fees and expenses incurred by us incident to the registration of the shares. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act, and the selling stockholders may be entitled to contribution. We may be indemnified by the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by the selling stockholders specifically for use in this prospectus, or we may be entitled to contribution.

The selling stockholders will be subject to the prospectus delivery requirements of the Securities Act including Rule 172 thereunder unless an exemption therefrom is available.

The selling stockholders have advised us that there is no underwriter or coordinating broker acting in connection with the proposed sale of the resale shares by the selling stockholders.

We have agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the selling stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for us to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered

or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of the common stock by the selling stockholders or any other person. We will make copies of this prospectus available to the selling stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

There can be no assurance that the selling stockholders will sell any or all of the shares of common stock registered pursuant to the registration statement, of which this prospectus forms a part.

Once sold under the registration statement, of which this prospectus forms a part, the shares of common stock will be freely tradable in the hands of persons other than our affiliates.

LEGAL MATTERS

The validity of the securities being offered hereby will be passed upon by Cooley LLP, Washington, D.C.

EXPERTS

The financial statements of Cerecor Inc. appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2016 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You should rely only on the information contained in this prospectus or incorporated by reference. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy the registration statement, as well as any other document filed by us with the SEC, at the SEC's Public Reference Room at 100 F Street NE, Washington, D.C. 20549. You can also request copies of these documents by writing to the SEC and paying a fee for the copying cost. You may obtain information on the operation of the Public Reference Room by calling the SEC at (800) SEC-0330. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including Cerecor. The address of the SEC website is www.sec.gov.

We maintain a website at www.cerecor.com. Information contained in or accessible through our website does not constitute a part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The SEC file number for the documents incorporated by reference in this prospectus is 001-33609. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this document:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on March 14, 2017, or the 2016 Form 10-K;
- our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2017, filed with the SEC on May 9, 2017;
- the information specifically incorporated by reference into the 2016 Form 10-K from our definitive proxy statement on Schedule 14A, filed with the SEC on March 31, 2017;
- our Current Reports on Form 8-K filed with the SEC on January 20, 2017, January 27, 2017, January 30, 2017, March 2, 2017, March 13, 2017, April 28, 2017 and May 15, 2017, to the extent the information in such report is filed and not furnished; and
- the description of our common stock contained in our Registration Statement on Form 8-A, filed with the SEC on October 9, 2015, including any amendments or reports filed for the purposes of updating this description.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, or (ii) after the date of this prospectus but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to Cerecor, Inc., 400 E. Pratt Street, Suite 606, Baltimore, Maryland 21202; telephone: (410) 522-8707.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this document will be deemed to be modified or superseded for purposes of the document to the extent that a statement contained in this document or any other subsequently filed document that is deemed to be incorporated by reference into this document modifies or supersedes the statement.

PART II

INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the estimated costs and expenses payable by us in connection with the common stock being registered. The selling stockholder will not bear any portion of such expenses. All the amounts shown are estimates, except for the SEC registration fee.

SEC registration fee	\$	1,961
Accounting fees and expenses	\$	17,500
Legal fees and expenses	\$	100,000
Total	\$	119,461

Item 15. Indemnification of Officers and Directors

We are incorporated under the laws of the State of Delaware. Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of its directors or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty to the corporation or its stockholders, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock purchase or redemption in violation of Delaware corporate law or derived an improper personal benefit. Our amended and restated certificate of incorporation provides that no director shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the Delaware General Corporation Law prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to 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 other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnify for such expenses which the Court of Chancery or such other court shall deem proper.

Our amended and restated certificate of incorporation provides that we will indemnify 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 civil, criminal, administrative or investigative (other than an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful.

Our amended and restated certificate of incorporation also provides that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee or, 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) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of

the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If we do not assume the defense, expenses must be advanced to an Indemnitee under certain circumstances.

In addition, we have entered into indemnification agreements with our current directors and officers containing provisions which are in some respects broader than the specific indemnification provisions contained in the Delaware general Corporation Law. The indemnification agreements require us, among other things, to indemnify our directors against certain liabilities that may arise by reason of their status or service as directors and to advance their expenses incurred as a result of any proceeding against them as to which they could be indemnified.

We maintain a general liability insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

Item 16. Exhibits and Financial Statement Schedules

Exhibit Number	Description of Document
3.1	Amended and Restated Certificate of Incorporation of Cerecor Inc. (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K (File No. 001-37590) filed on October 20, 2015).
3.2	Amended and Restated Bylaws of Cerecor Inc. (incorporated by reference to Exhibit 3.2 to Amendment No. 1 to the Current Report on Form 8-K (File No. 001-37590) filed on October 20, 2015).
3.3	Form of Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Preferred Stock of Cerecor Inc. (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K (File No. 001-37590) filed on April 28, 2017).
4.1	Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.3 to the Registration Statement on Form S-8 (File No. 333-211490) filed on May 20, 2016).
4.2	Form of Warrant to Purchase Common Stock of Cerecor Inc. (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K (File No. 001-37590) filed on April 28, 2017).
4.3	Registration Rights Agreement, dated April 27, 2017 (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (File No. 001-37590) filed on April 28, 2017).
4.4	Second Amended and Restated Investors' Rights Agreement, dated as of July 11, 2014 (incorporated by reference to Exhibit 4.1 to the Registration Statement on Form S-1 (File No. 333-204905) filed on June 12, 2015).
10.1	Securities Purchase Agreement, dated April 27, 2017 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 001-37590) filed on April 28, 2017).
5.1	Opinion of Cooley LLP.
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
23.3	Consent of Cooley LLP (included in Exhibit 5.1).
24.1	Power of Attorney (included on signature page).

Item 17. Undertakings

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 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 20 percent 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 the undertakings set forth in paragraphs (1)(i), (1)(ii) and (1)(iii) above do not apply if the registration statement is on Form S-3 or Form F-3 and 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 Securities Exchange Act of 1934, as amended, or the Exchange Act, that are incorporated by reference in the registration statements or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of 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 which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

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

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, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Baltimore, State of Maryland, on the 26th day of May, 2017.

CERECOR INC.

By: /s/ Uli Hacksell

Uli Hacksell

President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Uli Hacksell, Mariam E. Morris and Brent B. Siler, and each or any one of them, as his or her true and lawful agent, proxy and attorney-in-fact, 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 (i) act on, sign and file with the Securities and Exchange Commission any and all amendments (including post-effective amendments) to this registration statement together with all schedules and exhibits thereto and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, together with all schedules and exhibits thereto, (ii) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, (iii) act on and file any supplement to any prospectus included in this registration statement or any such amendment or any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and (iv) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he might or could do in person, hereby approving, ratifying and confirming all that such agent, proxy and attorney-in-fact or any of his or her substitutes may lawfully do or cause to be done by virtue thereof.

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/ Uli Hacksell</u> Uli Hacksell	President, Chief Executive Officer and Chairman of the Board <i>(Principal Executive Officer)</i>	May 26, 2017
<u>/s/ Mariam E. Morris</u> Mariam E. Morris	Chief Financial Officer <i>(Principal Financial Officer and Principal Accounting Officer)</i>	May 26, 2017
<u>/s/ Thomas Aasen</u> Thomas Aasen	Director	May 26, 2017
<u>/s/ Eugene A. Bauer</u> Eugene A. Bauer	Director	May 26, 2017
<u>/s/ Isaac Blech</u> Isaac Blech	Director	May 26, 2017
<u>/s/ Steven J. Boyd</u> Steven J. Boyd	Director	May 26, 2017
<u>/s/ Peter Greenleaf</u> Peter Greenleaf	Director	May 26, 2017
<u>/s/ Phil Gutry</u> Phil Gutry	Director	May 26, 2017
<u>/s/ Magnus Persson</u> Magnus Persson	Director	May 26, 2017

INDEX TO EXHIBITS

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23.3	Consent of Cooley LLP (included in Exhibit 5.1).
24.1	Power of Attorney (included on signature page).



May 26, 2017

Exhibit 5.1

Cerecor Inc.
400 E. Pratt Street, Suite 606
Baltimore, Maryland 21202

Ladies and Gentlemen:

We have acted as counsel to Cerecor Inc., a Delaware corporation (the "**Company**"), in connection with the Registration Statement on Form S-3 (the "**Registration Statement**") to be filed by the Company under the Securities Act of 1933, as amended, covering the resale by certain selling stockholders of up to 29,166,864 shares of the Company's Common Stock (the "**Shares**").

In connection with this opinion, we have examined and relied upon the Registration Statement and related Prospectus included therein, the Company's Amended and Restated Certificate of Incorporation, as amended, and Amended and Restated Bylaws, as amended, each as currently in effect 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.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion as to whether any particular laws other than those identified above are applicable to the subject matter hereof. We are not rendering any opinion as to compliance with any federal or state antifraud law, rule or regulation relating to securities, or to the sale or issuance thereof.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares have been validly issued and are fully paid, and nonassessable.



May 26, 2017

Page Two

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

Sincerely,

Cooley LLP

By: /s/ Brent B. Siler

Brent B. Siler

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" in the Registration Statement (Form S-3) and related Prospectus of Cerecor, Inc. for the registration of 29,166,864 shares of its common stock and to the incorporation by reference therein of our report dated March 14, 2017, with respect to the financial statements of Cerecor, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2016, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Baltimore, Maryland
May 25, 2017