

**Prospectus Supplement No. 49  
(To Prospectus dated October 14, 2015)**



**4,000,000 shares of common stock issuable  
upon the exercise of the 4,000,000  
outstanding Class A warrants**

**and**

**2,000,000 shares of common stock issuable  
upon the exercise of the 4,000,000  
outstanding Class B warrants**

This prospectus supplement No. 49 supplements the prospectus dated October 14, 2015 filed pursuant to Rule 424(b)(4) by Cerecor Inc. (the “Company” or “we”), as supplemented by the prospectus supplement No. 1 dated October 20, 2015, the prospectus supplement No. 2 dated November 13, 2015, the prospectus supplement No. 3 dated November 23, 2015, the prospectus supplement No. 4 dated December 17, 2015, the prospectus supplement No. 5 dated December 21, 2015, the prospectus supplement No. 6 dated December 29, 2015, the prospectus supplement No. 7 dated January 5, 2016, the prospectus supplement No. 8 dated January 12, 2016, the prospectus supplement No. 9 dated January 19, 2016, the prospectus supplement No. 10 dated February 2, 2016, the prospectus supplement No. 11 dated April 11, 2016, the prospectus supplement No. 12 dated May 25, 2016, the prospectus supplement No. 13 dated May 26, 2016, the prospectus supplement No. 14 dated May 26, 2016, the prospectus supplement No. 15 dated July 20, 2016, the prospectus supplement No. 16 dated August 15, 2016, the prospectus supplement No. 17 dated August 29, 2016, the prospectus supplement No. 18 dated September 6, 2016, the prospectus supplement No. 19 dated September 12, 2016, the prospectus supplement No. 20 dated September 21, 2016, the prospectus supplement No. 21 dated September 26, 2016, the prospectus supplement No. 22 dated November 8, 2016, the prospectus supplement No. 23 dated November 29, 2016, the prospectus supplement No. 24 dated December 5, 2016, the prospectus supplement No. 25 dated January 20, 2017, the prospectus supplement No. 26 dated January 27, 2017, the prospectus supplement No. 27 dated January 30, 2017, the prospectus supplement No. 28 dated March 2, 2017, the prospectus supplement No. 29 dated March 13, 2017, the prospectus supplement No. 30 dated March 15, 2017, the prospectus supplement No. 31 dated May 9, 2017, the prospectus supplement No. 32 dated July 7, 2017, the prospectus supplement No. 33 dated July 7, 2017, the prospectus supplement No. 34 dated August 14, 2017, the prospectus supplement No. 35 dated August 14, 2017, the prospectus supplement No. 36 dated August 25, 2017, the prospectus supplement No. 37 dated October 17, 2017, the prospectus supplement No. 38 dated October 20, 2017, the prospectus supplement No. 39 dated November 6, 2017, the prospectus supplement No. 40 dated November 17, 2017, the prospectus supplement No. 41 dated February 12, 2018, the prospectus supplement No. 42 dated February 23, 2018, the prospectus supplement No. 43 dated April 2, 2018, the prospectus supplement No. 44 dated April 2, 2018, the prospectus supplement No. 45 dated May 11, 2018, the prospectus supplement No. 46 dated May 21, 2018, the prospectus supplement No. 47 dated May 25, 2018, and the prospectus supplement No. 48 dated July 16, 2018, each filed pursuant to Rule 424(b)(3) by the Company (collectively, the “Prospectus”). Pursuant to the Prospectus, this prospectus supplement relates to the continuous offering of 4,000,000 shares of common stock underlying our Class A warrants. Each warrant was a component of a unit that we issued in our initial public offering, which closed on October 20, 2015. The components of the units began to trade separately on November 13, 2015. Each Class A warrant became exercisable on the date when the units detached and the components began to trade separately and will expire on October 20, 2018, or earlier upon redemption.

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This prospectus supplement incorporates into our Prospectus the information contained in our attached amendment to our Quarterly Report on Form 10-Q, which was filed with the Securities and Exchange Commission on July 27, 2018.

You should read this prospectus supplement in conjunction with the Prospectus, including any supplements and amendments thereto. This prospectus supplement is qualified by reference to the Prospectus except to the extent that the information in this prospectus supplement supersedes the information contained in the Prospectus.

This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the Prospectus, including any supplements and amendments thereto.

Our common stock, the Class A warrants are traded on The NASDAQ Capital Market under the symbols “CERC,” and

“CERCW,” respectively.

AN INVESTMENT IN OUR SECURITIES INVOLVES A HIGH DEGREE OF RISK. SEE THE SECTION ENTITLED “RISK FACTORS” BEGINNING ON PAGE 16 OF THE PROSPECTUS

FOR A DISCUSSION OF INFORMATION THAT SHOULD BE CAREFULLY CONSIDERED IN CONNECTION WITH AN INVESTMENT IN OUR SECURITIES

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 supplement is July 27, 2018

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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, DC 20549

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**FORM 10-Q/A**  
(Amendment No. 1)

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

for the quarterly period ended March 31, 2018

OR

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

COMMISSION FILE NUMBER: 001-37590

**Cerecor Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State of incorporation)

**45-0705648**  
(I.R.S. Employer Identification No.)

**400 E. Pratt Street, Suite 606**  
**Baltimore, Maryland 21202**  
(Address of principal executive offices)

**(410) 522-8707**  
(Registrant’s telephone number,  
including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

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. (Check one):

Large accelerated filer   
Non-accelerated filer  (Do not check if a smaller reporting company)  
Emerging growth company

Accelerated filer   
Smaller reporting company

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

As of May 9, 2018, the registrant had 31,413,035 shares of common stock outstanding.

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### Explanatory Note

Cerecor Inc. (the “Company”) is filing this Amendment No. 1 (“Amendment No. 1”) to its Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, originally filed with the Securities and Exchange Commission (“SEC”) on May 11, 2018 (the “Original Filing”) for the sole purpose of amending and restating the disclosures in Part I, Item 4 of the Original Filing to add additional disclosure with respect to management’s assessment of the Company’s disclosure controls and procedures.

In accordance with applicable SEC rules, Amendment No. 1 includes new certifications from the Company’s principal executive officer and principal financial officer dated as of the date of filing of this Amendment No. 1.

This Amendment No. 1 consists solely of the preceding cover page, this explanatory note, Part I, Item 4, “Controls and Procedures,” in its entirety, Part II, Item 6, “Exhibits,” in its entirety, the signature page, and the new certifications from the Company’s principal executive officer and principal financial officer.

Except as set forth above, the Original Filing has not been amended, updated or otherwise modified, and does not reflect events occurring after May 11, 2018, the date of the Original Filing, or modify or update those disclosures that may have been affected by subsequent events. Accordingly, this Amendment No. 1 should be read in conjunction with the Original Filing and the Company’s subsequent filings made with the SEC.

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## PART I — FINANCIAL INFORMATION

### Item 4. Controls and Procedures.

#### Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) and Rule 15d-15(b) of the Exchange Act, our management, including our principal executive officer and our principal financial officer, conducted an evaluation as of the end of the period covered by this Quarterly Report on Form 10-Q of the effectiveness of the design and operation of our disclosure controls and procedures. In designing and evaluating our disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Based on that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were not effective at the reasonable assurance level because they did not facilitate that certain information required to be disclosed by us in our SEC filings was recorded, processed, and accurately summarized and reported within the time periods specified in the SEC’s rules and regulations. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Our principal executive and principal financial officers’ conclusion that our disclosure controls and procedures were not effective as of the end of the period covered by this Quarterly Report on Form 10-Q is due to the following errors and inconsistencies in the reports that we filed under the Exchange Act:

- On March 2, 2018, we filed our Annual Report on Form 10-K (“Original Form 10-K”), which did not provide a clear conclusory statement, under Item 9A “Controls and Procedures”, as to whether our principal executive and principal financial officers believed our disclosure controls and procedures were or were not effective as of the end of the period covered by the Original Form 10-K, namely December 31, 2017;
- The Original Form 10-K also correctly contained a conclusion that the Company had a material weakness in internal control over financial reporting as of December 31, 2017 due to a failure to prevent an unauthorized cash disbursement (the “Material Weakness”);
- On May 11, 2018, we filed a Quarterly Report on Form 10-Q that incorrectly concluded that because of the Material Weakness the Company’s disclosure controls and procedures were not effective as required under Rules 13a-15(e) and 15d-15(e) under the Exchange Act at March 31, 2018; and
- On May 25, 2018, in response to an SEC comment on the Original Form 10-K, we filed an amended Annual Report on Form 10-K to correct the disclosure contained in Item 9A “Controls and Procedures” and provided a clear conclusory statement that the principal executive and principal financial officers believed our disclosure controls and procedures were effective as of December 31, 2017.

Due to the above errors and inconsistencies in the Company’s filings, our principal executive and principal financial officers were unable to conclude that our disclosure controls and procedures were effective as of the end of the period covered by this Quarterly Report on Form 10-Q.

## Changes in Internal Control Over Financial Reporting

Management had previously determined that the Company's internal controls did not operate effectively to prevent or timely detect an unauthorized cash disbursement during the quarter ended December 31, 2017. Specifically, these controls were not adequate to safeguard the Company's cash assets from unauthorized transfers resulting from the failure of certain members of the finance organization to exercise appropriate skepticism and oversight for disbursement of company-owned funds. This Material Weakness in the Company's controls resulted in the inability to prevent and timely detect the fraud loss.

### *Remediation of the Material Weakness*

Upon identification of the Material Weakness, management began the immediate implementation of the following actions:

- enhanced approval requirements for electronic disbursements;
- increased centralization and levels of review for the processing of disbursements;
- implemented limits on the amount of cash available for disbursement;
- increased internal communications to improve security awareness and to emphasize the importance of exercising professional skepticism; and
- established communications protocols for attempted fraudulent disbursements.

Management completed the remediation of the Material Weakness during the Company's fiscal quarter ended March 31, 2018.

Other than the changes associated with our remediation efforts described above, there was no change in the Company's internal control over financial reporting that occurred during the Company's fiscal quarter ended March 31, 2018 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

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## PART II — OTHER INFORMATION

### Item 6. Exhibits.

<u>Exhibit Number</u>	<u>Description of Exhibit</u>
2.1#+	<a href="#"><u>Asset Purchase Agreement, dated February 12, 2018, by and between Cerecor Inc., Avadel US Holdings, Inc., Avadel Pharmaceuticals (USA), Inc., Avadel Pediatrics, Inc., Avadel Therapeutics, LLC and Avadel Pharmaceuticals PLC (incorporated by reference to Exhibit 2.1 to the Quarterly Report on Form 10-Q on May 11, 2018).</u></a>
10.1	<a href="#"><u>Employment Agreement, dated March 27, 2018, by and between Cerecor Inc. and Peter Greenleaf (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on April 2, 2018).</u></a>
10.2#	<a href="#"><u>License and Development Agreement, dated February 16, 2018, by and between Cerecor Inc. and Flamel Ireland Limited (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q on May 11, 2018).</u></a>
31.1	<a href="#"><u>Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u></a>
31.2	<a href="#"><u>Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u></a>
32.1*	<a href="#"><u>Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (incorporated by reference to Exhibit 32.1 to the Quarterly Report on Form 10-Q on May 11, 2018).</u></a>
101.INS	XBRL Instance Document (incorporated by reference to the Quarterly Report on Form 10-Q on May 11, 2018).
101.SCH	XBRL Taxonomy Extension Schema Document (incorporated by reference to the Quarterly Report on Form 10-Q on May 11, 2018).
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document (incorporated by reference to the Quarterly Report on Form 10-Q on May 11, 2018).
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document (incorporated by reference to the Quarterly Report on Form 10-Q on May 11, 2018).
101.LAB	XBRL Taxonomy Extension Label Linkbase Document (incorporated by reference to the Quarterly Report on Form 10-Q on May 11, 2018).
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document (incorporated by reference to the Quarterly Report on Form 10-Q on May 11, 2018).

omitted and are marked accordingly. The confidential portions have been filed separately with the Securities and Exchange Commission.

\* This certification is being furnished solely to accompany this Quarterly Report pursuant to 18 U.S.C. Section 1350, and are not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and are not to be incorporated by reference into any filing of the registrant, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

+ Certain exhibits and schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A list of these exhibits and schedules is included after the table of contents in the Asset Purchase Agreement. The Company agrees to furnish a supplemental copy of such omitted exhibit or schedule to the Securities and Exchange Commission upon request.

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## SIGNATURES

Pursuant to the requirements of the Securities and Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

### Cerecor Inc.

Date: July 27, 2018

/s/ Peter Greenleaf

**Peter Greenleaf**

Chief Executive Officer  
*(on behalf of the registrant and as the registrant's Principal  
Executive Officer)*

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## Exhibit 31.2

### CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Joseph M. Miller, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q/A of Cerecor Inc. (the "registrant");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent

functions):

- (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
- (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 27, 2018

/s/ Joseph M. Miller

**Joseph M. Miller**

*Chief Financial Officer*

(Registrant's Principal Financial and Accounting Officer)

**Exhibit 31.1**

**CERTIFICATION PURSUANT TO SECTION 302 OF  
THE SARBANES-OXLEY ACT OF 2002**

I, Peter Greenleaf, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q/A of Cerecor Inc. (the "registrant");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 27, 2018

/s/ Peter Greenleaf

**Peter Greenleaf**

*Chief Executive Officer*

(Registrant's Principal Executive Officer)

