Filed Pursuant to Rule 424(b)(3)
Registration No. 333-204905

Prospectus Supplement No. 24
(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

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This prospectus supplement No. 24 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 and the prospectus supplement No. 23 dated November 29, 2016, 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 and 2,000,000 shares of our common stock underlying Class B 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. Each Class B warrant became exercisable on the date the units detached and the components began to trade separately and will expire on April 20, 2017.

This prospectus supplement incorporates into our Prospectus the information contained in our attached Current Report on Form 8-K, which was filed with the Securities and Exchange Commission on December 5, 2016.

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 and the Class B warrants are traded on The NASDAQ Capital Market under the symbols "CERC," "CERCW," and "CERCZ," 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 December 5, 2016

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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): **December 5, 2016**

Cerecor Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware	**001-37590**	**45-0705648**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

400 E. Pratt Street **Suite 606** **Baltimore, Maryland**	**21202**
(Address of Principal Executive Offices)	(Zip Code)

Registrant's Telephone Number, Including Area Code: **(410) 522-8707**

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instructions A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 8.01. Other Events.

On December 5, 2016, Cerecor Inc. (the "***Company***") issued a press release in connection with the reporting of the results from its Phase 2 clinical trial with CERC-501 for nicotine withdrawal. A copy of the press release is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

Exhibit No.	Description
99.1	Press Release, dated December 5, 2016, entitled "Cerecor Announces Top-Line Results from CERC-501 Phase 2 Study for Nicotine Withdrawal."

SIGNATURES

Pursuant to the requirements of the Securities 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.

By: /s/ Uli Hacksell
Uli Hacksell
President and Chief Executive Officer

Date: December 5, 2016

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press Release, dated December 5, 2016, entitled "Cerecor Announces Top-Line Results from CERC-501 Phase 2 Study for Nicotine Withdrawal."

Exhibit 99.1

Cerecor Announces Top-Line Results from CERC-501 Phase 2 Study for Nicotine Withdrawal

BALTIMORE--(Marketwired)--**December 5, 2016** --Cerecor Inc. (NASDAQ: CERC), a clinical-stage biopharmaceutical company developing treatments to make a difference in the lives of patients with neurological and psychiatric disorders, today announced top-line clinical results from its nicotine withdrawal Phase 2 clinical trial of CERC-501, an oral, potent, and selective kappa opioid receptor ("KOR") antagonist. The trial did not meet its primary objective in nicotine withdrawal. CERC-501 was well tolerated. Based on this favorable side-effect profile, and as previously planned, Cerecor intends to move forward with development of CERC-501 in its primary indication, as an adjunctive treatment of Major Depressive Disorder (MDD).

"While CERC-501 did not demonstrate efficacy in this trial, we are encouraged by the drug's overall safety profile," said Ronald Marcus, M.D., Chief Medical Officer and Head of Regulatory Affairs of Cerecor. "We want to thank the National Institute of Drug Abuse, of the National Institutes of Health, for co-supporting the trial."

The study was a randomized, double-blind, placebo-controlled, crossover study of 71 subjects who are heavy cigarette smokers and currently not seeking treatment for tobacco use disorder. In period one of the study (8 days), half the subjects in each group received 15 mg of CERC-501 and the other half received placebo. Next, "crossover" occurred and subjects received the opposite treatment during period two (8 days), after a one week "wash-out period." The crossover design allowed for subjects to be their own control.

The trial did not achieve its objectives of improvement of CERC-501 compared to placebo on symptoms of tobacco withdrawal and smoking behaviors, as measured by improvement in time to start smoking and number of cigarettes smoked following abstinence.

CERC-501 was generally well-tolerated with no serious adverse events reported and no discontinuations due to adverse events with CERC-501. The most commonly reported adverse events, over 5% and greater than placebo in the study, were diarrhea and decreased appetite.

Cerecor intends to present additional data from this trial at scientific meetings in 2017.

"There is preclinical and recent clinical evidence that strongly support the potential use of other KOR antagonists as novel medicines for the treatment of mood- and stress-related conditions, such as MDD and anxiety disorders. We believe that our KOR antagonist, CERC-501, has similar potential," added

Dr. Uli Hacksell, President and Chief Executive Officer at Cerecor. “We will now turn our focus to preparing CERC-501 for a Phase 2/3 clinical trial as an adjunctive treatment of MDD in patients with an inadequate response to standard antidepressant therapies. We hope to initiate this trial in the second half of 2017.”

About CERC-501
CERC-501 is a potent and selective oral KOR antagonist being developed as an adjunctive treatment of MDD and a therapy for substance use disorders. KORs have been shown to play an important role in stress, mood and addiction. CERC-501 has been observed to have positive activity in animal models of depression, substance withdrawal and dependence, and it has been generally well-tolerated in five human clinical trials.

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 study is being conducted under the auspices of the National Institute of Mental Health, the second is a collaboration between Cerecor and Yale University with funding from the National Institutes of Health and the third is being conducted at Rockefeller University Hospital with funding from a private foundation.

The National Institute on Alcohol Abuse and Alcoholism at the National Institutes of Health has given Cerecor a $1.0 million grant to progress the development of CERC-501 for the treatment of Alcohol Use Disorder (“AUD”). In addition, the Department of Defense has provided research funding to conduct a study of CERC-501 in animal models for co-morbid Post-Traumatic Stress Disorder and AUD.

About Cerecor
Cerecor is a clinical-stage biopharmaceutical company developing innovative drug candidates to make a difference in the lives of patients with neurological and psychiatric disorders. In addition to CERC-501, Cerecor has three other novel compounds in development: CERC-301, CERC-611 and CERC-406.

CERC-301 is an oral, NR2B selective, NMDA receptor antagonist being developed as an adjunctive treatment of MDD. CERC 301 may have the potential to be a first-in-class medication that may significantly reduce depressive symptoms in a matter of days. In a recent Phase 2 trial in MDD, CERC-301 missed the primary endpoint but the 20 mg dose showed signals of efficacy at day 2. Cerecor is continuing to assess the results from this trial and will announce planned next steps at a later date. Cerecor intends to present additional data from this trial at a clinical meeting next year.

CERC-611 is a potent and selective Transmembrane AMPA Receptor Regulatory Proteins (“TARP”)-γ8-dependent α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (“AMPA”) receptor antagonist, which Cerecor plans to develop as an adjunctive therapy for the treatment of partial-onset seizures with or without secondarily generalized seizures in patients with epilepsy. Cerecor expects to file an investigational new drug application with the FDA and thereafter, subject to the availability of additional funding, commence Phase 1 development in 2017.

Cerecor has one preclinical stage asset, CERC-406, a brain penetrant catechol-O-methyltransferase inhibitor with potential precognitive activity.

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Forward-Looking Statements
This press release may include forward-looking statements made pursuant to the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that are not historical facts. Such forward-looking statements are subject to significant risks and uncertainties that are subject to change based on various factors (many of which are beyond Cerecor's control), which could cause actual results to differ from the forward-looking statements. Such statements may include, without limitation, statements with respect to Cerecor's plans, objectives, projections, expectations and intentions and other statements identified by words such as "projects," "may," "will," "could," "would," "should," "continue," "seeks," "aims," "predicts," "believes," "expects," "anticipates," "estimates," "intends," "plans," "potential" or similar expressions (including their use in the negative), or by discussions of future matters such as the development of product candidates or products, potential attributes and benefits of product candidates, the expected timing of the commencement of clinical trials, the expected timing of data from clinical trials, and other statements that are not historical. These statements are based upon the current beliefs and expectations of Cerecor's management but are subject to significant risks and uncertainties, including those detailed in Cerecor's filings with the Securities and Exchange Commission. Actual results may differ from those set forth in the forward-looking statements. Except as required by applicable law, Cerecor expressly disclaims any obligations or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in Cerecor's expectations with respect thereto or any change in events, conditions or circumstances on which any statement is based.