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): October 28, 2016

Mast Therapeutics, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware	**001-32157**	**84-1318182**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

3611 Valley Centre Drive, Suite 500, San Diego, CA	**92130**
(Address of Principal Executive Offices)	**(Zip Code)**

Registrant's Telephone Number, Including Area Code: (858) 552-0866

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 2.05 Costs Associated with Exit or Disposal Activities.

As part of its previously described strategic focus on AIR001 and plan to significantly reduce operating costs, on October 28, 2016, Mast Therapeutics, Inc. (the "Company") committed to a reduction in workforce of four positions, commenced notification of the four affected employees and completed the workforce reduction. Since the beginning of October 2016, the Company's workforce has been reduced by ten employees, or approximately 38%. Costs incurred as a result of the earlier workforce reduction were not material under U.S. generally accepted accounting principles, so were not separately reported.

Assuming each affected employee executes and does not revoke a separation agreement and general release of claims, the Company estimates that it will incur restructuring costs related to these workforce reductions totaling approximately $0.4 million, which represent one-time employee termination costs, including severance, benefits and related costs. The Company expects all of these costs to be paid in the fourth quarter of 2016.

The Company plans to implement additional cost control measures in the fourth quarter of 2016 to further reduce its expenditures.

Forward-Looking Statements

Mast Therapeutics cautions you that statements in this report that are not a description of historical facts are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by the use of words referencing future events or circumstances such as "expect," "intend," "plan," "anticipate," "believe," and "will," among others. Examples of forward-looking statements include, but are not limited to, statements regarding the Company's workforce reduction, including related charges and the Company's business plans and objectives, including planned reductions in operating expenses and development plans for its product candidates. Forward-looking statements should not be read as guarantees of future performance or results because they involve the Company's beliefs and assumptions based on currently available information and are subject to significant known and unknown risks and uncertainties that may cause actual performance and results to differ materially from expectations indicated by the forward-looking statements. Some of the factors that could cause actual performance or results to differ include, without limitation: the risk that costs related to the workforce reduction are greater than expected; the risk that the Company may not realize the benefits expected from the workforce reduction or other cost control measures; risks associated with the Company's ability to manage operating expenses, including by implementation of further cost control measures; the Company's need for additional funding to continue to operate as a going concern and uncertainty as to its ability to obtain additional capital as needed; uncertainty related to the Company's ability to comply with the terms and conditions under its debt facility and risk that the Company may be required to repay its remaining outstanding debt obligation on an accelerated basis and/or at a time that could be detrimental to the Company's financial condition, operations and/or business strategy; the impact of significant reductions in the Company's operations on its ability to execute its business strategy or maintain compliance with laws and regulations relating to public companies; completion of a more detailed analysis of EPIC study data and announcement of additional data from the study; uncertainties inherent in the conduct of clinical studies and the risk that the Company's product candidates may not demonstrate adequate safety, efficacy or tolerability in one or more clinical studies and that their clinical development will take longer and be more expensive than anticipated; the potential for the Company to significantly delay, reduce or discontinue current and/or planned development activities or sell or license its assets at inopportune times if it is unable to raise sufficient additional capital as needed; that the Company is not the sponsor of the ongoing Phase 2 clinical studies of AIR001 and has limited to no control over the conduct of those studies, including whether they will be completed on anticipated timelines, or at all; the Company's dependence on third parties to assist with important aspects of development of the Company's product candidates, including the conduct of its clinical studies, the manufacture and supply of its clinical trial material and, if approved, commercial product, and the conduct of regulatory activities, and the risk that such third parties may fail to perform as expected leading to delays in product candidate development, regulatory approval, commercial launch and/or inability to meet future market demand for any approved products; the risk that the FDA and regulatory agencies outside of the U.S. do not grant marketing approval of a product candidate, on a timely basis, or at all; the risk that, even if the Company successfully develops a product candidate in one or more indications, the Company may not realize commercial success and may never achieve profitability; the risk that the Company is not able to obtain and maintain effective patent coverage or other market exclusivity protections for its products, if approved, or that the use or manufacture of the Company's products may infringe the proprietary rights of others; and other risks and uncertainties more fully described in the Company's press releases and periodic filings with the U.S. Securities and Exchange Commission.

You are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made. Mast Therapeutics does not intend to revise or update any forward-looking statement set forth in this report to reflect events or circumstances arising after the date hereof, except as may be required by law. This caution is made under the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended.

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 hereunto duly authorized.

Mast Therapeutics, Inc.

Date: October 31, 2016

By: */s/ Brandi L. Roberts*
Brandi L. Roberts
Chief Financial Officer and Senior Vice President