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

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**FORM 8-K**

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**CURRENT REPORT**

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

**Date of Report (Date of earliest event reported): May 27, 2015**

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**Mast Therapeutics, Inc.**

(Exact name of Registrant as Specified in Its Charter)

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**Delaware**  
(State or Other Jurisdiction  
of Incorporation)

**001-32157**  
(Commission File Number)

**84-1318182**  
(IRS Employer  
Identification No.)

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

**92130**  
(Zip Code)

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

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

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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))
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**Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.**

On May 27, 2015, Jack Lief notified Mast Therapeutics, Inc. (the “Company”) of his intent to resign from the Company’s Board of Directors (the “Board”). Mr. Lief’s decision to resign is not due to any disagreement with the Company known to any of its executive officers on any matter relating to the Company’s operations, policies or practices. Mr. Lief informed the Company that he will resign to avoid any potential conflict of interest given his position as President and Chief Executive Officer of Arena Pharmaceuticals, Inc. and Arena’s development of a product candidate for the treatment of vascular diseases, including pulmonary arterial hypertension (“PAH”). Mast Therapeutics’ product candidate, AIR001, has been tested in Phase 1 and Phase 2 clinical studies for the treatment of PAH and the Company currently is developing AIR001 for heart failure with preserved ejection fraction. The date of Mr. Lief’s resignation from the Board has not yet been determined, but is expected to be during the third quarter of 2015.

**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.

Mast Therapeutics, Inc.

Date: May 28, 2015

By: /s/ Brian M. Culley

Brian M. Culley  
Chief Executive Officer