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): May 5, 2014

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)	(I.R.S. Employer Identification No.)
12390 El Camino Real, Suite 150, San Diego, California		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:

[ ] 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 2.02 Results of Operations and Financial Condition.

On May 5, 2014, Mast Therapeutics, Inc. issued a press release announcing its financial results for the three months ended March 31, 2014. A copy of the press release is furnished as Exhibit 99.1 hereto.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

The list of exhibits called for by this Item is incorporated by reference to the Exhibit Index filed with this report.

The information set forth under Item 2.02 and in Exhibit 99.1 is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934 and is 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 any such filing.

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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.

May 5, 2014

By: /s/ Patrick L. Keran

Name: Patrick L. Keran
Title: President and Chief Operating Officer

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Exhibit Index

Exhibit No.	Description
99.1	Press release, dated May 5, 2014

MAST THERAPEUTICS REPORTS FIRST QUARTER 2014 FINANCIAL RESULTS

SAN DIEGO – May 5, 2014 – Mast Therapeutics, Inc. (NYSE MKT: MSTX) today reported financial results for the quarter ended March 31, 2014.

During the period, the Company made progress across multiple clinical and corporate fronts, including the ex-U.S. expansion of EPIC, it's pivotal Phase 3 study of MST-188 in sickle cell disease, and pipeline expansion with the acquisition of AIR001, a clinical-stage program. Other highlights included initiating a Phase 2 study of MST-188 in combination with recombinant tissue plasminogen activator in patients with acute limb ischemia, announcing positive nonclinical data in heart failure, and presenting new nonclinical data supportive of MST-188's development in sickle cell disease at a prominent sickle cell disease research symposium.

"This past quarter, we enhanced our value proposition via the clinical progress we made with MST-188 and our acquistion of Aires Pharmaceuticals," said Brian M. Culley, Chief Executive Officer of Mast Therapeutics. "Looking ahead, we will continue to focus on enrolling patients in our Phase 3 EPIC study and reaching our goal of 70 EPIC study sites open globally by year-end. We also look forward to announcing our clinical development plans for MST-188 in heart failure and for AIR001."

First Quarter 2014 Operating Results

The Company's net loss for the first quarter of 2014 was $6.4 million, or $0.06 per share (basic and diluted), compared to a net loss of $5.6 million, or $0.12 per share (basic and diluted), for the same period in 2013.

Research and development expenses for the first quarter of 2014 were $4.3 million, an increase of $0.9 million, or 24%, compared to $3.4 million for the same period in 2013. The increase was primarily due to an increase of $0.5 million in external nonclinical study fees and expenses and $0.3 million in personnel costs. The increase in external nonclinical study fees and expenses was primarily related to manufacturing additional clinical trial material for EPIC and our phase 2 study of MST-188 in acute limb ischemia. The increase in personnel costs was primarily related to additional clinical and research-related manufacturing staff hired after the first quarter of 2013.

Selling, general and administrative expenses for the first quarter of 2014 were $2.3 million, an increase of $0.2 million, or 7%, compared to $2.1 million for the same period in 2013. The increase resulted primarily from an increase in personnel costs.

The Company recognized a $0.5 million bargain purchase gain during the first quarter of 2014 associated with its acquisition of Aires, which was included in other income.

Balance Sheet Highlights

As of March 31, 2014, the Company had cash, cash equivalents and investment securities totaling $49.6 million. Stockholders' equity amounted to $52.8 million as of March 31, 2014.

About Mast Therapeutics

Mast Therapeutics, Inc. is a publicly traded biopharmaceutical company headquartered in San Diego, California. The Company is leveraging the MAST (Molecular Adhesion and Sealant Technology) platform, derived from over two decades of clinical, nonclinical and manufacturing experience with purified and non-purified poloxamers, to develop MST-188, its lead product candidate, for serious or life-threatening diseases and conditions typically characterized by impaired microvascular blood flow and damaged cell membranes.

The Company is enrolling subjects in EPIC, a pivotal phase 3 study of MST-188 in sickle cell disease, and in a phase 2, clinical proof-of-concept study to evaluate whether MST-188 improves the effectiveness of recombinant tissue plasminogen activator therapy in patients with acute limb ischemia. The Company also is developing MST-188 in heart failure and expects to announce its clinical development plans in this indication in the second half of 2014. More information can be found on the Company's web site at www.masttherapeutics.com. (Twitter: @MastThera)

Forward Looking Statements

Mast Therapeutics cautions you that statements included in this press release that are not a description of historical facts are forward-looking statements that are based on the Company's current expectations and assumptions. Such forward-looking statements include, but are not limited to, statements relating to progress with the EPIC study, including the total number of study sites expected to be open at year-end, and with the Company's other development programs, including the timing of announcement of clinical development plans for MST-188 in heart failure and for AIR001. Among the factors that could cause or contribute to material differences between the Company's actual results and the expectations indicated by the forward-looking statements are risks and uncertainties that include, but are not limited to: the uncertainty of outcomes in ongoing and future studies of the Company's product candidates and the risk that its product candidates, including MST-188, may not demonstrate adequate safety, efficacy or tolerability in one or more such studies, including EPIC; delays in the commencement or completion of clinical studies, including as a result of difficulties in obtaining regulatory agency agreement on clinical development plans or clinical study design, opening trial sites, enrolling study subjects, manufacturing sufficient quantities of clinical trial material, being subject to a "clinical hold," and/or suspension or termination of a clinical study, including due to patient safety concerns or lack of funding; the potential for institutional review boards or the FDA or other regulatory agencies to require additional nonclinical or clinical studies prior to initiation of a

phase 2 clinical study of MST-188 in heart failure or other indications; the risk that, even if clinical studies are successful, the FDA or other regulatory agencies may determine they are not sufficient to support a new drug application; the potential that, even if clinical studies of a product candidate in one indication are successful, clinical studies in another indication may not be successful; the Company's reliance on contract research organizations (CROs), contract manufacturing organizations (CMOs), and other third parties to assist in the conduct of important aspects of development of its product candidates, including clinical studies, manufacturing, and regulatory activities for its product candidates, and that such third parties may fail to perform as expected; the Company's ability to obtain additional funding on a timely basis or on acceptable terms, or at all; the potential for the Company to delay, reduce or discontinue current and/or planned development activities, including clinical studies, partner its product candidates at inopportune times or pursue less expensive but higher-risk and/or lower return development paths if it is unable to raise sufficient additional capital as needed; the risk that, even if the Company successfully develops a product candidate in one or more indications, it may not realize commercial success with its products and may never generate revenue sufficient to achieve profitability; the risk that the Company is not able to adequately protect its intellectual property rights relating to the MAST platform and MST-188 or AIR001 and prevent competitors from duplicating or developing equivalent versions of its product candidates; and other risks and uncertainties more fully described in the Company's press releases and periodic filings with the Securities and Exchange Commission. The Company's public filings with the Securities and Exchange Commission are available at www.sec.gov.

You are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date when made. Mast Therapeutics does not intend to revise or update any forward-looking statement set forth in this press release to reflect events or circumstances arising after the date hereof, except as may be required by law.

Contact:
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[Tables to Follow]

Mast Therapeutics, Inc.
(A Development Stage Enterprise)
Condensed Consolidated Statements of Operations
(In thousands except per share data)

	Three months ended March 31, (Unaudited)	
	2014	**2013**
Total net revenue	$ —	$ —
Operating expenses:		
Research and development	4,281	3,443
Selling, general and administrative	2,266	2,113
Transaction-related expenses	280	27
Depreciation and amortization	12	10
Total operating expenses	6,839	5,593
Loss from operations	(6,839)	(5,593)
Interest and other income, net	468	12
Net loss	$ (6,371)	$ (5,581)
Net loss per share – basic and diluted	$ (0.06)	$ (0.12)
Weighted average shares – basic and diluted	105,054	46,265

Mast Therapeutics, Inc.
(A Development Stage Enterprise)
Balance Sheet Data
(In thousands)

	March 31, 2014 (Unaudited)	**December 31, 2013**
Cash, cash equivalents and investment securities	$49,620	$44,393
Working capital	44,447	40,695
Total assets	62,359	55,250
Total liabilities	9,569	7,442
Stockholders' equity	52,790	47,808