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 15, 2013

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 15, 2013, Mast Therapeutics, Inc. issued a press release announcing its financial results for the three months ended March 31, 2013. 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 15, 2013

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 15, 2013

MAST THERAPEUTICS REPORTS FIRST QUARTER 2013 FINANCIAL RESULTS

SAN DIEGO – May 15, 2013 – Mast Therapeutics, Inc. (NYSE MKT: MSTX) today reported financial results for the quarter ended March 31, 2013.

Brian M. Culley, Chief Executive Officer, said: "We have opened more than a dozen clinical sites in EPIC, our pivotal phase 3 study in sickle cell disease, and are on track to meet our goal of opening approximately 40 U.S. sites by year-end. We also plan to support U.S. enrollment by opening roughly 30 sites outside the U.S., beginning early next year. Mast remains the only company with a new drug in phase 3 development in sickle cell disease and investigators have been enthusiastic about the potential for MST-188 to become the first agent approved to treat an on-going vaso-occlusive crisis of sickle cell disease."

First Quarter 2013 Operating Results

The Company's net loss for the first quarter of 2013 was $5.6 million, or $0.12 per share (basic and diluted), compared to a net loss of $4.2 million, or $0.09 per share (basic and diluted), for the same period in 2012.

Research and development (R&D) expenses for the first quarter of 2013 were $3.4 million, an increase of $1.2 million, or 56%, compared to $2.2 million for the same period in 2012. The increase was primarily due to increases of $2.0 million in external clinical study fees and expenses and $0.2 million in personnel costs, offset by a $1.0 million decrease in external nonclinical study fees and expenses. The increase in external clinical study fees and expenses was primarily related to EPIC, the Company's phase 3 study of MST-188 in sickle cell disease, and its thorough QT/QTc study of MST-188 in healthy volunteers, both of which were initiated in the first quarter. The decrease in external nonclinical study fees and expenses resulted primarily from a decrease in research-related manufacturing expenses for ANX-514, which the Company discontinued during 2012.

Selling, general and administrative (SG&A) expenses for the first quarter of 2013 were $2.1 million, an increase of $0.1 million, or 3%, compared to $2.0 million for the same period in 2012. The increase resulted primarily from an increase in personnel costs related to increased headcount.

Balance Sheet Highlights

As of March 31, 2013, the Company had cash, cash equivalents and short-term investments totaling $32.0 million. Stockholders' equity amounted to $36.6 million as of March 31, 2013.

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 with significant unmet needs. MST-188 is a cytoprotective, hemorheologic, anti-inflammatory and anti-thrombotic agent that has potential utility in diseases or conditions characterized by microcirculatory insufficiency (endothelial dysfunction and/or impaired blood flow).

The Company is recruiting subjects in EPIC, a pivotal phase 3 study of MST-188 in sickle cell disease. The Company plans to initiate a phase 2 clinical study of MST-188 in acute limb ischemia, a complication of peripheral arterial disease, in late 2013 or early 2014. More information can be found on the Company's web site at www.masttherapeutics.com.

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 regarding the Company's development plans for MST-188, including progress and plans related to the EPIC study and prospects for MST-188's clinical, regulatory and commercial success in sickle cell disease. 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 nonclinical and clinical studies of MST-188 despite positive results in nonclinical testing and prior clinical studies; the potential for significant delays in the development of MST-188, including due to lack of funding, 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, completing necessary manufacturing process development activities, and being subject to a "clinical hold," or suspension or termination of a clinical study, including due to patient safety concerns;; the potential for institutional review boards or the FDA or other regulatory agencies to require additional nonclinical or clinical studies prior to initiation of planned phase 2 clinical studies of MST-188 in any particular indication in which the Company determines to develop MST-188, including acute limb ischemia, which likely would increase the total time and cost of development in the indication; the risk that clinical studies of MST-188 are not successfully executed and/or do not successfully demonstrate its safety or efficacy; 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 risk that even if clinical studies of MST-188 in one indication or jurisdiction are successful, clinical studies in another indication or jurisdiction may not be successful; the potential for unsuccessful nonclinical or clinical studies in one indication or jurisdiction, or by a future partner that may be outside of the Company's

control, to adversely affect opportunities for MST-188 in other indications or jurisdictions; 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 MST-188, including clinical studies, and regulatory activities for MST-188 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 MST-188 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 acceptable partnering opportunities for MST-188 may not be available in particular jurisdictions or indications and, consequently, the Company may not be able to pursue development of MST-188 in certain jurisdictions and indications; the risk that the FDA or any other regulatory agency does not grant marketing approval of MST-188, on a timely basis, or at all; the risk that the Company is not able to adequately protect its intellectual property rights relating to the MAST platform and MST-188 and prevent competitors from duplicating or developing equivalent versions of its product candidates, including MST-188; 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)	
	2013	**2012**
Total net revenue	$ —	$ —
Operating expenses:		
Research and development	3,443	2,210
Selling, general and administrative	2,113	2,045
Transaction-related expenses	27	(114)
Depreciation and amortization	10	30
Total operating expenses	5,593	4,171
Loss from operations	(5,593)	(4,171)
Interest and other income, net	12	18
Net loss	$ (5,581)	$ (4,153)
Net loss per share – basic and diluted	$ (0.12)	$ (0.09)
Weighted average shares – basic and diluted	46,265	47,716

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

	March 31, 2013 (Unaudited)	**December 31, 2012**
Cash, cash equivalents and short-term investments	$32,007	$36,511
Working capital	29,365	34,603
Total assets	42,328	46,972
Total liabilities	5,773	5,179
Stockholders' equity	36,555	41,792