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 16, 2015

Inotek Pharmaceuticals Corporation

(Exact name of registrant as specified in its charter)

001-36829

(Commission

Èile Number)

DELAWARE (State or other jurisdiction of incorporation)

> 91 Hartwell Avenue Lexington, MA

(Address of principal executive offices)

02421

04-3475813

(I.R.S. Employer

Identification No.)

(Zip Code)

Registrant's telephone number, including area code (781) 676-2100

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))

Item 7.01 Regulation FD Disclosure.

On October 16, 2015, Inotek Pharmaceuticals Corporation (the "Company") issued a press release announcing that dosing of patients has commenced in its first pivotal Phase 3 trial of *trabodenoson* for the treatment of glaucoma. A copy of the press release is furnished as Exhibit 99.1 hereto and is hereby incorporated by reference into this Item 7.01.

The information in this Item 7.01 (including Exhibit 99.1) is being furnished, not filed, pursuant to Regulation FD. Accordingly, the information in this Item 7.01 will not be incorporated by reference into any registration statement filed by the Company under the Securities Act of 1933, as amended, unless specifically identified therein as being incorporated therein by reference. The furnishing of the information in this Item 7.01 is not intended to, and does not, constitute a determination or admission by the Company that this information is material or complete, or that investors should consider this information before making an investment decision with respect to any security of the Company.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits.

The following exhibits relating to Item 7.01 shall be deemed to be furnished, and not filed:

 Exhibit
 Description

 99.1
 Press Release, dated October 16, 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 hereunto duly authorized.

Date: October 16, 2015

INOTEK PHARMACEUTICALS CORPORATION

By: /s/ Dale Ritter

Dale Ritter Vice President — Finance

EXHIBIT INDEX

Exhibit
No.Description99.1Press Release, dated October 16, 2015



Inotek Pharmaceuticals Initiates Dosing of MATRx-1, the First Pivotal Phase 3 Clinical Trial of Trabodenoson, a Novel Treatment for Glaucoma

-Top-line data expected in the fourth quarter of 2016-

Lexington, MA — October 16, 2015 — <u>Inotek Pharmaceuticals</u> Corporation (NASDAQ: ITEK) (the "Company" or "Inotek"), a clinical stage biopharmaceutical company focused on the discovery, development and commercialization of therapies for ocular diseases, today announced that dosing of patients has commenced in MAT*Rx*-1, the first pivotal Phase 3 trial of trabodenoson for the treatment of glaucoma. Trabodenoson, the Company's lead clinical candidate, is a first-in-class selective adenosine mimetic under investigation for reduction of intraocular pressure.

MAT**R***x*-1 is a Phase 3 randomized, double-masked, placebo-controlled trial of trabodenoson in approximately 335 patients diagnosed with primary openangle glaucoma (POAG) or ocular hypertension (OHT). MAT**R***x*-1 will assess the efficacy, safety and tolerability of trabodenoson over three months of treatment. The primary endpoint will be the reduction of intraocular pressure (IOP) as compared to the placebo treatment arm. In addition, the study will contain a timolol 0.5% arm to validate the sensitivity of the patient population. Intraocular pressure (IOP) will be measured at four timepoints during the day, 8AM, 10AM, 12PM, and 4PM on days 14, 28, 42, and 84. Three doses of trabodenoson will be administered: 1000 mcg once daily, 1500 mcg twice daily, and 2000 mcg once daily. These doses were selected to assess efficacy in intraocular pressure lowering, while maintaining the tolerability and safety profile observed in Phase 2 trials. The trial will enroll patients with IOP greater than or equal to 24 mm Hg and less than or equal to 34 mm Hg, which represents the patients most likely to receive treatment for glaucoma or ocular hypertension. Inotek expects MAT**R***x*-1 to complete in 2016, with top-line results anticipated in the fourth quarter of 2016.

"Based on the encouraging Phase 2 results as well as guidance from the U. S. Food and Drug Administration (FDA), our team has formalized plans for our Phase 3 program to support a New Drug Application (NDA) for trabodenoson in glaucoma," commented Rudolf Baumgartner, MD, Chief Medical Officer of Inotek. "If approved, trabodenoson—with its potential for once daily dosing and a mechanism that may compliment currently available glaucoma medications —has potential as a valuable treatment option for physicians managing the IOP of patients with this disease."

"Patients suffering from glaucoma need new therapies that are both efficacious and well-tolerated," commented William McVicar, PhD, Executive Vice President and Chief Scientific Officer of Inotek. "Trabodenoson was developed with the objective of

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restoring the natural pressure-regulating process that occurs in the healthy eye, and thus lowering IOP. The compound specifically targets the adenosine A_1 receptor, one of four known receptors for this naturally occurring purinergic regulator. Stimulation of the A_1 receptor on human trabecular meshwork cells in culture releases proteases, which can digest and remove hydrolyzed proteins that can clog the trabecular meshwork, obstructing the eye's drainage system."

About Inotek Pharmaceuticals Corporation

Inotek Pharmaceuticals is a clinical-stage biopharmaceutical company focused on the discovery, development and commercialization of therapies for glaucoma and other eye diseases. The Company's lead product candidate, trabodenoson, is a first-in-class selective adenosine mimetic currently in Phase 3 development. Trabodenoson was developed in Inotek's laboratories and designed to restore the eye's natural pressure control mechanism. The development of trabodenoson monotherapy delivered in a once-daily eye drop formulation will be followed by a fixed-dose combination of trabodenoson with latanoprost. Additionally, the Company is evaluating the potential for selective adenosine mimetics to address optic neuropathies and other degenerative retinal diseases.

For more information, please visit www.inotekpharma.com

Forward-Looking Statements

This press release contains forward-looking statements, which are subject to substantial risks, uncertainties and assumptions. You should not place reliance on these statements often include words such as "believe," "expect," "anticipate," "intend," "plan," "estimate," "seek," "will," "may" or similar expressions. Although the Company believes that the expectations reflected in the forward-looking statements are reasonable, the Company cannot guarantee such outcomes. Accordingly, you should not place undue reliance on these forward-looking statements. All such statements speak only as of the date made, and the Company undertakes no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

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