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

May 20, 2004

(Date of earliest event reported)

MEDICAL DISCOVERIES, INC.

(Exact name of registrant as specified in its charter)

Utah	0-12627	87-0407858
(State or other jurisdiction of incorporation or organization)	(Commission File No.)	(IRS. Employer Identification No.)

738 Aspenwood Lane
Twin Falls, Idaho 83301
(208) 736-1799

(Address of principal executive offices and telephone number, including area code)

Item 9. Regulation FD Disclosure

This Current Report on Form 8-K is filed for the purpose of disclosing the press release that was released on May 20, 2004 and is attached hereto as Exhibit 99.

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.

MEDICAL DISCOVERIES, INC.

/s/ Judy M. Robinett
Judy M. Robinett
President and Chief Executive Officer

Date: May 20, 2004

INDEX OF EXHIBITS

Number	Description
99	Press Relese issued May 20, 2004

EXHIBIT 99

Contact: Medical Discoveries, Inc.
208-736-1799

FOR IMMEDIATE RELEASE

MEDICAL DISCOVERIES INC. ANNOUNCES RECEIPT OF CYSTIC FIBROSIS PRE-CLINICAL REPORT ON MDI-P

Continuing Pre-IND Research Documents MDI-P Low Toxicity Profile

TWIN FALLS, IDAHO, May 20, 2004 — Medical Discoveries, Inc. (OTC-BB as MLSC) announced the receipt of its third in a series of pre-clinical research reports from Dr. Emil Chi, Chairman of the Department of Histopathology at the University of Washington Medical School. This trial, one of several studies on models of disease which mimic human disease, focused on the company's proprietary drug MDI-P as a potential therapeutic agent for the treatment of the symptoms of cystic fibrosis ("CF").

Results from this study showed that, 48 hours after treatment, MDI-P-treated CF-like mice lungs evidenced: a) a 60% reduction in mucus secretion; b) a 49% reduction in white blood cellular infiltration; and c) a 42% reduction in lung edema, as contrasted with untreated CF-like mice. In MDI-P-treated mice, the associated level of lung hemorrhage was reduced by 39%, the level of neutrophil lung infiltration was reduced by 49%, and eosinophil lung infiltration was reduced by 86%, as contrasted with untreated CF-like mice. The 100% MDI-P solution provided a 100% host-sparing effect against this fatal CF-like condition. No overt signs of toxicity were found in the primary organs (lungs, liver, spleen, kidneys, brain) of mice treated with MDI-P.

This study and the other pre-clinical studies of MDI-P are required for filing an Investigational New Drug (IND) application later this year with the FDA for the primary target use for MDI-P, which is treating humans with HIV. There is not an animal test relevant to HIV/AIDS in humans, so MDI is required to sponsor testing of MDI-P on other standard animal/mimicking human models, such as the recently-reported asthma results, in order to determine if there is any potentially significant toxicity to humans related to usage of MDI-P.

MDI's President and Chief Executive Officer, Judy Robinett, commented: "Because CF is an invariably fatal disease with no curative therapies currently available, MDI-P may prove to be a

very beneficial agent exhibiting minimal toxicity for addressing the continuing lung function degeneration with CF patients. This study sets the stage for possible later expansion of MDI-P into additional indications, potentially including CF. When completed, our other pre-clinical reports and our CMC/CGMP data will allow us to file an IND with the FDA for our initial target indication, HIV, and enter clinical trials sometime late in 2004 or early in 2005."

TEST OVERVIEW

Infection with Pseudomonas aeruginosa, a common bacterium, plays a major role in the pulmonary inflammation and injury associated with cystic fibrosis. Lung inflammation may also lead to more widespread systemic effects on other organs, including the pancreas. CF affects approximately 1 in 2,500 live births and qualifies as an "orphan" indication with the FDA, with some 30,000 new cases reported annually in the U.S. and an estimated 900,000 patients surviving up to age 30.

In this study of 48 mice, it was found that MDI-P (100% solution strength) is a useful agent to reduce primary measures of disease in CF, including bacterial infection, mucus secretion, cellular infiltration, lung edema (swelling with excess fluid), lung hemorrhage, and lung infiltration by neutrophils and eosinophils, the principal white blood cells responding to allergic and infectious pathogens. Excessive presence of neutrophils and eosinophils can lead to cell death in surrounding tissues, causing serious health problems from their over-expression.

These findings were established in a new mucus overproduction mouse model designed to more closely mimic the CF disease condition found in humans. This mouse model starts with OVA-induced, chronic asthmatic mice, which are then infected intranasally with P. aeruginosa to establish a lung disease state comparable with CF patients. Almost all CF patients evidence P. aeruginosa colonization at some time during the disease process, associated with progressive deterioration of lung function in CF. With mice mimicking human asthma in this model, the airway is filled with mucus occlusion and the airway becomes infected following inoculation with P. aeruginosa. The data provided evidence that MDI-P inhibits P. aeruginosa growth and colonization in this mouse model with airway mucus hypersecretion.

Formed in 1991, Medical Discoveries, Inc. is a publicly traded (OTC Bulletin Board as MLSC) development-stage biopharmaceutical research company engaged in the research, development and validation of its patented anti-infective technology. MDI's electrolyzed solution of free radicals represents a novel approach to treating its initial target indication, HIV.

Information in this press release relating to the potential of MDI constitutes forward-looking statements. Actual results in future periods may differ materially from the forward-looking statements because of a number of risks and uncertainties set forth in MDI's 2003 Annual Report on Form l0-KSB and other filings with the Securities and Exchange Commission.

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