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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

August 10, 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.)	(I.R.S. Employer Identification No.)

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

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

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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 August 10, 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: August 10, 2004

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Number	Description
99	Press Release issued August 10, 2004

EXHIBIT 99

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

FOR IMMEDIATE RELEASE

MEDICAL DISCOVERIES INC. ANNOUNCES RECEIPT
OF PK REPORT ON MDI-P

Preclinical Research Supports Low Toxicity

TWIN FALLS, IDAHO, August 10, 2004 – Medical Discoveries, Inc. (OTC-BB as MLSC) announced its receipt of a pharmacokinetics (PK) report, which studied the processes of bodily absorption, distribution, metabolism, and excretion (ADME) of the company's proprietary compound, MDI-P, in rabbits. Pharmacokinetics describes the time course of drug concentrations in plasma (and sometimes in other fluids and tissues) resulting from a particular dosing regimen.

This study indicates that MDI-P has an average half-life in-vivo of 17.3 minutes, within a range of 10-20 minutes. Compared with most drugs, where the PK half-life thresholds typically range from many hours to days, this indicates that MDI-P's pathogen-killing activity is compressed within very short timeframes. Furthermore, because toxicity is frequently associated with long half-lives of drug residues in the liver, heart, brain and other vital organs, the truncated half-life of MDI-P has very favorable characteristics associated with lower toxicity profiles.

According to Judy Robinett, MDI's President and CEO, "One of the primary reasons cited for the failure of new drug candidates in FDA clinical trials is the lack of a suitable pharmacokinetics (PK) profile. It has been estimated that almost 40% of the attrition of all drug candidates is linked to poor PK. When we were initially told that the standard PK technique of radioactive tagging was not feasible for MDI-P, we felt that new approaches would have to be constructed to achieve a reliable PK study. We are therefore very gratified with the extremely high level of sensitivity achieved in measurement of the PK parameters for MDI-P. This important milestone report is required for our IND submissions under a Drug Master File, set for Q4 2004."

PK Test Overview

MDI-P, the Company's therapeutic compound, proved not amenable to traditional radioactive tagging of active ingredients to determine ADME. Consequently, MDI contracted through Clagett Consulting with the University of Washington's Mass Spectrometry Lab to design and conduct novel, highly specialized, sensitive tests of MDI-P administered in rabbits. These assays detect the presence of the solution in the peripheral blood of the rabbits.

ACP (Acyl-protected hydroxylamine), used frequently to detect oxygen radicals in chemistry, was used as a surrogate marker for the reactive oxygen species present in MDI-P, in a two-compartmental model of pharmacokinetics (from blood plasma into tissue, and back into the blood).

The methodology employed by the UW Mass Spectrometry Lab in this PK study used a High Pressure Liquid Chromatography (HPLC) separator and UV absorption. The measurements for PK were achieved at the *picogram-nanogram per mL* range, an extraordinary level of sensitivity not previously reported in the literature for reactive oxygen species. Pharmacokinetic statistical analysis was made by Clagett Consulting using Summit Research's established PK Solutions software suite.

President Robinett continued: "Despite the valuable insights obtained from *in vitro* ADME screening assays, *in vivo* drug exposure is still emphasized by drug discovery teams when making decisions about molecules within a Structure-Activity Relationship (SAR), which explores the correlations between chemical structure and measured activity. Having reliable data on MDI-P's absorption, distribution, metabolism and excretion is thus an important benchmark in MDI's IND submissions to the FDA."

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 10-KSB and other filings with the Securities and Exchange Commission.

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