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# **Metabolomics Platform Analyzes Biomarkers Associated With Male Infertility**

## **Molecular Biometrics Presents Results of a Pilot Study Assessing Use of Metabolomic Profiling in Male Infertility at American Society of Reproductive Medicine's 62nd Annual Meeting**

NEW ORLEANS, LA and CHESTER, NJ -- (MARKET WIRE) -- October 23, 2006 -- Molecular Biometrics, a privately held metabolomics company, today presented results of a pilot study investigating the use of metabolomic profiling to assess male infertility at the American Society of Reproductive Medicine's 62nd Annual Meeting in New Orleans.

In a poster presentation (P-131) titled "Assessment of oxidative stress levels in semen using spectroscopy-based metabolomic profiling: implications in male infertility" Principle Investigator Ashok Agarwal Ph.D, (et. al.) of The Cleveland Clinic Foundation, presented findings of a pilot study assessing Molecular Biometrics' non-invasive method of spectroscopy-based metabolomic profiling of biomarkers of Oxidative Stress (OS). The study evaluated seminal plasma specimens from four groups of patients with male factor infertility and compared the findings to normal controls.

Oxidative stress has long been implicated as a likely cause of male factor infertility and has been shown to negatively affect sperm and embryo quality, and thus pregnancy outcomes. The study concluded that metabolomic profiling of seminal plasma using NIR spectroscopy will likely have utility as a rapid, non-invasive diagnostic screening test of male infertility by identifying different levels of oxidative stress in seminal plasma.

James Posillico, Ph.D., President and CEO of Molecular Biometrics, commented on the study, "These data show for the first time that metabolomic profiling of Oxidative Stress biomarkers could be an effective method of diagnosing various forms of male factor infertility in a rapid, non-invasive manner. We will be conducting further studies to

validate these promising observations and to focus on the development of a simple, cost-effective diagnostic screening test."

Near Infrared (NIR) spectroscopy was used to assess biomarkers of OS in seminal plasma of previously diagnosed patients. Spectral data were then analyzed using the Company's proprietary bioinformatics. In this study, all five groups of specimens showed unique metabolomic profiles, or "signatures," that were statistically different from each other, illustrating different levels of oxidative stress between normal males and those with various forms of male factor infertility. Total analysis time for each specimen was approximately one minute.

Complex interactions between the pro-oxidants and antioxidants are crucial in the maintenance of normal intracellular homeostasis. An imbalance in these reactions results in OS, which is known to affect the quality of spermatozoa, eggs and embryos. Current analytical methods that assess OS rely primarily on biochemical methodologies that are cumbersome, costly and labor intensive. The advent of metabolomic profiling will likely offer a more expeditious and sensitive means of studying mechanisms of OS in male factor infertility.

About Molecular Biometrics:

Molecular Biometrics is a privately held metabolomics company that has developed a novel technology platform based on breakthrough metabolomic and biospectroscopy sciences. These disciplines are used in concert to quantify a sample's molecular biomarker makeup and then convert that data into a novel "metabolomic profile" of health or disease using highly specific and sensitive bioinformatics. Molecular Biometrics' technology platform has broad applications in numerous therapeutic categories, including fertility, maternal fetal medicine, neurodegenerative disease such as Alzheimer's and Parkinson's disease and pulmonary and lactate metabolism. The Company's technology platform will also be used to develop a new family of molecular diagnostics products and has applications in pharmacodiagnosics of drug discovery and development.

Molecular Biometrics' lead product candidate is a rapid, non-invasive test of embryo viability for the in-vitro fertilization (IVF) market, where embryo selection is a pivotal step in the treatment procedure. The Company's cost-effective platform enables identification and simultaneous analysis of multiple small molecule biomarkers, in a single sample, leading to the accurate detection of viable embryos in a cohort group that are capable of producing a pregnancy versus those that are not. This high-speed procedure takes approximately one minute to complete.

Please visit Molecular Biometrics' during ASRM at booth #335.

[Editor's Note: Study abstracts available by visiting <http://dbpub.com/lookup/ASRM2006/default.php>]

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