NEWS

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GENOMAS CLINICAL STUDY FINDS INCREASED PREVALENCE OF DRUG METABOLISM DEFICIENCIES IN PATIENTS WITH SERIOUS PSYCHOTROPIC SIDE EFFECTS

Data Support Case for DNA-Guided Medicine in Psychiatry

HARTFORD, CT – Results from a clinical study published in the current issue of the Future Medicine Group (London) journal ***Personalized Medicine**** are helping to point the way toward the application of DNA-guided medicine to predict psychotropic side effects. Published as part of the journal's clinical series *Personalized Medicine in Action*, the study was conducted at The Institute of Living of Hartford Hospital in collaboration with Genomas.

The CYP2C9, CYP2C19 and CYP2D6 genes from the cytochrome P450 family were chosen for DNA typing because their common variants result in deficient metabolic capacity for many psychotropic drugs. The study involved 73 patients suffering from Major Depressive Disorder and treated with psychotropic medications. They were referred to the Laboratory for Personalized Health at Genomas for diagnostic DNA typing as part of their clinical care because of drug efficacy or safety concerns. In addition, DNA typing was conducted for the same genes on samples obtained from 120 control subjects.

Combinatorial gene analysis revealed that 57 percent of individuals in the psychiatric population were carriers of multiple gene variations associated with no or poor drug metabolism capacity on 2 or 3 genes compared to 36 percent of individuals in the control population. Individuals that are multiply deficient in CYP450 metabolic routes are at risk for developing serious side effects to a variety of psychotropic medications.

"We found clear evidence that there were significantly more innate drug metabolism deficiencies based on the gene variants predominantly observed in the population experiencing side effects," said Gualberto Ruaño, M.D., Ph.D., President and CEO of Genomas, and Director of Genetics Research, Hartford Hospital. "Our goal is to enhance patient safety by preventing predictable side effects and at the same time build the case for DNA typing in the optimized utilization of health care resources. We are integrating this clinical experience with development of our PhyzioType Systems for DNA-Guided Medicine."

"These findings support a public health imperative for the wide use of DNA typing to help prevent serious side effects in the mentally ill," said Harold Schwartz, M.D., VP Behavioral Health, Hartford Hospital and Institute of Living. "I am hopeful that DNA-guided medicine will soon become routine in psychiatry, particularly in high-risk populations with histories of drug resistance and intolerance."

ABOUT GENOMAS

Genomas® Inc. is a biomedical company advancing DNA-guided medicine and personalized healthcare. The company develops revolutionary PhyzioType™ Systems for DNA-guided diagnosis and prevention of metabolic disorders induced by drugs in cardiovascular and psychiatric medicine. PhyzioType Systems are designed to provide physicians with an unprecedented capability to select for each patient the safest drug treatment to enhance compliance. Genomas is located in Hartford, CT on the campus of Hartford Hospital. Please visit *www.genomas.net* for more information.

ABOUT THE INSTITUTE OF LIVING AT HARTFORD HOSPITAL

Founded in 1822, The Institute of Living (IOL) was one of the first mental health centers in the United States, and the first hospital of any kind in Connecticut. Today, as part of Hartford Hospital, it is one of America's leading centers for comprehensive patient care, research and education in the fields of behavioral, psychiatric, and addiction disorders. As a research center, IOL conducts clinical trials of investigational new drugs and is a leader in outcome studies. For more information please access *www.instituteofliving.org*.

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*Ruaño G., Villagra D., Rahim U.S., Windemuth A., Kocherla M., Bower B., Szarek B.L., Goethe J.W. *Increased Carrier Prevalence of Deficient CYP2C9, CYP2C19 and CYP2D6 Alleles in Depressed Patients Referred to a Tertiary Psychiatric Hospital.* ***Personalized Medicine***, 5 (6): 579-587, 2008