



HMT Newsletter

Dear Researchers,

I hope this newsletter finds you well and planning some summer fun. My colleagues and I are more than happy to see the winter pass, while our thoughts are turning to sunshine, the beach and some burgers on the grill.

Human Metabolome Technologies Inc. (HMT) is pleased to introduce some of our recently published research articles. The utility of metabolomics is expanding to the field of biomarker screening for the detection and diagnosis of a variety of complex diseases such as psychiatric disorders. Last month, HMT announced the progression of our biomarker business for the diagnosis of major depression disorder with a biomarker validation contract with the second partner in Japan. This month, we will join BIO2015 presenting our most recent advancements in biomarker development. We are looking forward to talking with you in Philadelphia to support your research goals.

Sincerely,

Tsutomu Hoshiba
President
Human Metabolome Technologies America

HMT Updates

Personalized Healthcare

Human Metabolome Technologies, Inc., announced that on May 22th, 2015, a business agreement with Shinjuku Mental Clinic (Tokyo, Japan) for the use of HMT's diagnostic assay for major depression disorder (MDD). As part of this collaboration HMT will provide a plasma assay service testing for Phosphoethanolamine (PEA) based on HMT's patent.

Conference Information

2015 BIO International Convention

June 15-18, Philadelphia Convention Center, Philadelphia, Pennsylvania
<http://convention.bio.org/>

HMT will present our services and recent applications at our exhibit in the Japanese pavilion. Please drop by our booth (3649) to see what is new and share your research goals with us.

Our Recent Applications

Psychiatry and Neurology

Plasma and Liver Metabolic Profiles in Mice Subjected to Subchronic and Mild Social Defeat Stress

Tatshuhiko Goto *et al.*, *Journal of Proteome Research*, **14**, 1025-1032, 2015

To improve the quality of life of animals, understanding of stress-induced changes is necessary. Previously, we established a subchronic and mild social defeat stress (sCSDS) model in mice, which showed significantly higher body weight gain, food intake, and water intake compared to control mice. In this study, we elucidated metabolic profiles of plasma, liver, and urine in sCSDS mice by using metabolome and biochemical analyses.

<http://pubs.acs.org/doi/abs/10.1021/pr501044k>

Reduced cerebrospinal fluid ethanolamine concentration in major depressive disorder

Shintaro Ogawa *et al.*, *Scientific Reports*, **5**, 7796, 2015

Amino acids play key roles in the function of the central nervous system, and their alterations are implicated in psychiatric disorders. In the search for a biomarker for major depressive disorder (MDD), we used high-performance liquid chromatography to measure amino acids and related molecules in the cerebrospinal fluid (CSF) of 52 patients with MDD (42 depressed and 10 remitted; DSM-IV) and 54 matched controls.

<http://www.nature.com/srep/2015/150115/srep07796/full/srep07796.html>

Oncology

Retinoblastoma protein promotes oxidative phosphorylation through upregulation of glycolytic genes in oncogene-induced senescent cells

Shin-ichiro Takebayashi *et al.*, *Aging Cell*, in press, 2015

Cellular senescence is an irreversible growth arrest induced by various stresses, which exhibits active secretory and metabolic phenotypes. Here, we show that retinoblastoma protein (RB) plays a critical role in promoting the metabolic flow by activating both glycolysis and mitochondrial oxidative phosphorylation (OXPHOS) in cells that have undergone oncogene-induced senescence (OIS).

<http://dx.doi.org/10.1111/accel.12351>

HMT is a leading company providing metabolomic profiling based on unique and high performance CE-MS technology. We complete over 400 projects a year and our technology has contributed to the advancement of research in a variety of scientific areas.

Please find more information on our website:

<http://humanmetabolome.com/en/applications.html>



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