HMT Newsletter

Friends and Colleagues,

Metabolomic analysis in basic research continues to be a major driver in the Metabolomics field despite headlines about metabolomic biomarker discoveries in human disease and in the clinical setting. This month's publications and our Webinar by Dr. Laura Shelton, exemplify our commitment to basic science. From Zebra fish, to HeLa cells to plasma from mouse models, HMT continues to produce accurate and quantitative data supporting a wide range of medical research.

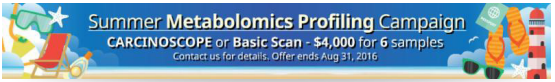
Get started today with our Summer Promotional discount and listen in on Laura's informative talk on tracking heavy atom labeled metabolites through central energy metabolism pathways.

Sincerely,

Alexander Buko, PhD
Vice President
Human Metabolome Technologies America

HMT Updates

Campaign



Heat up your research

Basic Scan or CARCINOSCOPE packages: $4,000 / 6 samples

- **Basic Scan: Global profiling targeting 900 compounds**
- **CARCINOSCOPE: Absolute quantitation of 116 key metabolites**
- **Variety of samples - Cells, Tissues, Blood, Plant etc.**
- **Quick turnaround - 6-8 weeks**
- **Full statistical analysis and biological interpretation**
- **Offer expires on August 31, 2016**

This summer, HMT is offering our custom "**Bioenergetics Cell**" keychain to all customers who order our analysis service during the promotional period.

Event Information

Join our Webiner

Isotope Analysis : Modeling the Ever Changing Metabolic Landscape
August 18, 12 pm (EDT)

This HMT webinar focuses on the utility of C13 based isotope studies to compliment steady state metabolomics. We will demonstrate how isotopomer analyses reveals novel pathway adaptations and unique therapeutic targets.

Dr. Laura Shelton, our presenter, is an HMT Scientific Study Coordinator. She received her Ph.D. from Boston College with a focus on cancer metabolism, co-authoring a widely accessed and cited review "Cancer as a Metabolic Disease" (2010). She has overseen 75 HMT projects, providing insight, guidance and biological interpretations.

Click here to register now!

Featured articles

Additive reductions in zebrafish *PRPS1* activity result in a spectrum of deficiencies modeling several human *PRPS1*-associated diseases.

Wuhong Pei *et al., Sci. Rep.*, **6**: 29946.

Phosphoribosyl pyrophosphate synthetase-1 (PRPS1) is a key enzyme in nucleotide biosynthesis, and mutations in PRPS1 are found in several human diseases including nonsyndromic sensorineural deafness, Charcot-Marie-Tooth disease-5, and Arts Syndrome. We utilized zebrafish as a model to confirm that mutations in PRPS1 result in phenotypic deficiencies in zebrafish similar to those in the associated human diseases.

Disruption of *Slc52a3* gene causes neonatal lethality with riboflavin deficiency in mice.

Hiroki Yoshimatsu *et al., Sci. Rep.*, **6**: 27557.

Homeostasis of riboflavin should be maintained by transporters. Previous in vitro studies have elucidated basic information about riboflavin transporter RFVT3 encoded by *SLC52A3* gene. However, the contribution of RFVT3 to the maintenance of riboflavin homeostasis and the significance in vivo remain unclear. Here, we investigated the physiological role of RFVT3 using *Slc52a3* knockout (*Slc52a3*−/−) mice.

The space of enzyme regulation in HeLa cells can be inferred from its intracellular metabolome.

Christian Diener *et al., Sci. Rep.*, **6**: 28415.

During the transition from a healthy state to a cancerous one, cells alter their metabolism to increase proliferation. The underlying metabolic alterations may be caused by a variety of different regulatory events on the transcriptional or post-transcriptional level whose identification contributes to the rational design of therapeutic targets. We present a mechanistic strategy capable of inferring enzymatic regulation from intracellular metabolome measurements that is independent of the actual mechanism of regulation.

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