HUMAN METABOLOME TECHNOLOGIES, INC.

INTRODUCTION TO HMT'S METABOLOMICS

HMT'S HQ is located in the northern Japan.

INTRODUCTION TO

WHO WE ARE

Sakura in full bloom in April

HUMAN METABOLOME TECHNOLOGIES

- BUSINESS
  COMMISSIONED METABOLOME ANALYSIS
  BIOMARKER DEVELOPMENT

- HISTORY
  FOUNDED ON JULY 1, 2003
  IPO (TSE MOTHERS) ON DECEMBER 24, 2013

- OFFICES
  TSURUOKA, YAMAGATA, JAPAN (HQ)
  TOKYO & KYOTO, JAPAN
  BOSTON, MA, USA (AFFILIATE)

- CLIENTS
  COMPANIES (PHARMACEUTICAL, FOOD, CHEMICAL, COSMETIC)
  RESEARCH INSTITUTIONS
  UNIVERSITIES

- >350 PROJECTS/YR IN 2013

Heavy snow around the HQ

WHAT IS

METABOLOMICS?

The Japan Sea blessed with multifarious resources
especially for foods

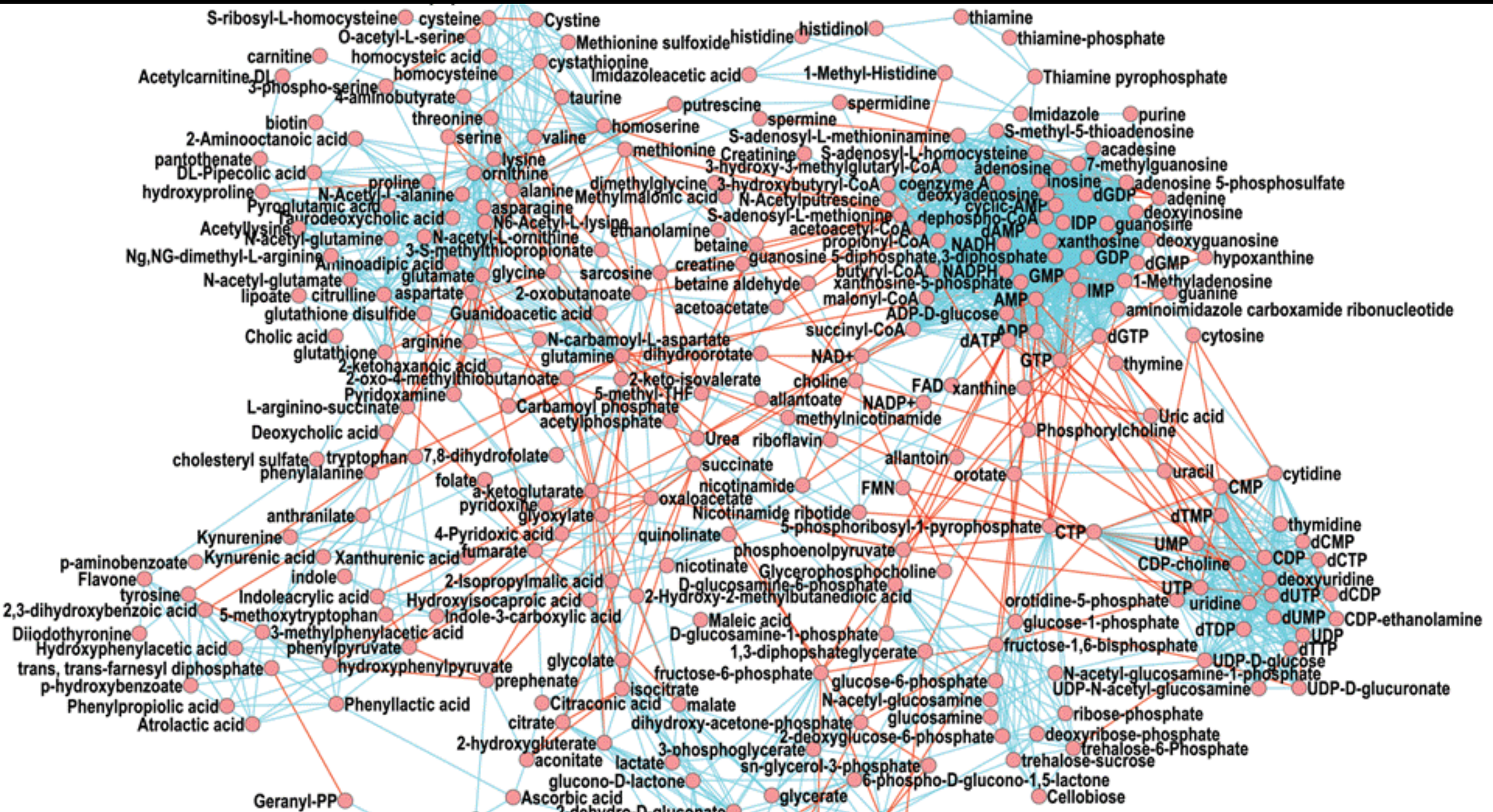
“Metabolomics is the scientific study of chemical processes involving metabolites. ”

–WIKIPEDIA

UNDERSTANDING

HOW METABOLOME WORKS

AMINO ACIDS, ORGANIC ACIDS, NUCLEOTIDES, VITAMINES, PHOSPHATE COMPOUNDS, PEPTIDES, FATS, SUGARS AND SO ON



METABOLOME EXSISTS IN EVERYWHERE AROUND US

HUMAN, ANIMAL, PLANT,
FOOD, DRINK, INSECTS, SOIL

KEY APPLICATIONS

- BIOMARKER SEARCH
- DRUG EFFICACY
- FUNCTIONAL COMPOUND SEARCH
- FOOD RESEARCH
- COSMETICS RESEARCH
- QUALITY CONTROL
- PRODUCTION OPTIMIZATION

Disguise costume for the Tsuruoka Tenjin Festival

WHAT IS HMT'S

TECHNICAL ADVANTAGE?

BEST SUITED FOR IONIC COMPOUNDS

CAPILLARY ELECTROPHORESIS-MASS SPECTROMETRY

1. GOOD SEPARATION & RESOLUTION

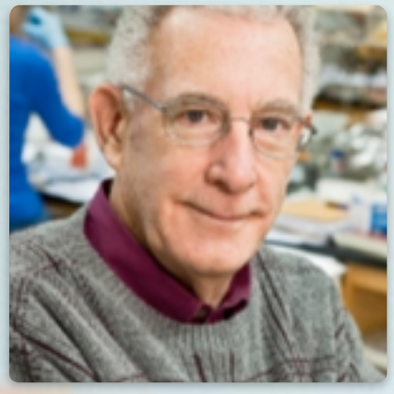
2. EXCELLENT ANALYTICAL SENSITIVITY

3. IMPROVED REPRODUCIBILITY AND LOW RSD

4. MINIMUL SAMPLE REQUIREMENTS

"Alone we can do so little; together we can do so much"

–HELEN KELLER

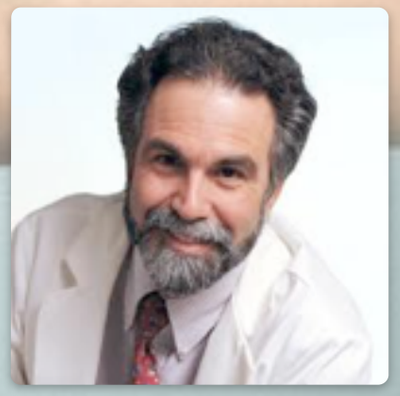


Prof. Thomas Seyfried,
Boston College
Famous for his book,
"Cancer as a Metabolic Disease."

Prof. David Sabatini,
Whitehead Institute, MIT
Famous for his discovery
in mTOR and its pathway.

Prof. Joan Brugge,
Harvard Medical School
Famous for her carcinogenesis research
with 3D culturing.

Prof. Lewis Cantley,
Weill Cornell Medical College, Cornell University
Famous for his discovery in PI3K and its pathway.



Prof. Gregg Semenza,
Johns Hopkins University
Famous for his discovery in HIF.

WITH HMT'S ANALYSIS

RECENT PUBLICATIONS

- Makinoshima H et al., *J. Biol. Chem.*, 2014, June 13. '**Epidermal Growth Factor Receptor (EGFR) Signaling Regulates Global Metabolic Pathways in EGFR-mutated Lung Adenocarcinoma.**'
- Baba T et al., *Nat. Commun.*, 2014, 5:3634. '**Glycolytic genes are targets of the nuclear receptor Ad4BP/SF-1.**'
- Koike S et al., *Transl. Psychiatry*, 2014, 4:e379. '**A snapshot of plasma metabolites in first-episode schizophrenia: a capillary electrophoresis time-of-flight mass spectrometry study.**'
- Kibe R et al., *Sci. Rep.*, 2014, 4:4548. '**Upregulation of colonic luminal polyamines produced by intestinal microbiota delays senescence in mice.**'
- Hosoda F et al., *Oncogene*, 2014, 10.1038 'I**ntegrated genomic and functional analyses reveal glyoxalase I as a novel metabolic oncogene in human gastric cancer.**'
- Tsuno S et al., *Sci. Rep.* 2014, 4:3852. '**Hsa-miR-520d induces hepatoma cells to form normal liver tissues via a stemness-mediated process.**'
- T Takebe et al., *Nature*, 2013, 499(7459) 481-484 '**Vascularized and functional human liver from an iPSC-derived organ bud transplant.**'
- S Yoshimoto et al., *Nature*, 2013, 499(7456) 97-101 '**Obesity-induced gut microbial metabolite promotes liver cancer through senescence secretome.**'

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Metabolomics using CE-MS

AgilentLife's channel

チャンネル登録 1,467

1,209

HMT technology and services

HMTAmerica

チャンネル登録 2

再生回数 331 回

INSPIRATION!

Our interpretive metabolomics sheds light on your question