

The 32nd Annual Meeting of the Japanese Society for Biomedical Mass Spectrometry

Program

September 27 (Thu) – 28 (Fri), 2007

Shiran Kaikan

Kyoto University, Faculty of Medicine
YoshidaKonoe-cho, Sakyo-ku,
Kyoto 606-8501, Japan



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Time Schedule

September 27 (Thursday)

8:55	Opening Remark
9:00	Oral Presentation (G1-G8)
11:00	Plenary Lecture
12:00	Luncheon Seminar 1
	Board Meeting
13:25	JSBMS Business Meeting
13:50	Symposium 1
16:45	Oral Presentation (G9-G12)
17:45	Evening Seminar
18:30	Banquet

September 28 (Friday)

9:00	Oral Presentation (G13-G14)
9:30	Symposium 2
11:00	Oral Presentation (G15-G19)
12:15	Luncheon Seminar 2
13:15	Award Lecture
13:35	Symposium 3
15:05	Oral Presentation (G20-G25)
16:35	Closing Remark

Program

September 27 (Thursday)

8:55- Opening Remark

9:00-10:00 Oral Presentation (G1-G4)

G1 Evaluation of fructose-1,6-diphosphatase deficiency using stable isotope dilution supersensitive gas chromatography-mass spectrometry: synthesis of [1,2,3-¹³C₃]-glycerol-3-phosphate

Noriaki MINAMI¹, Yuki HASEGAWA¹, Hironori KOBAYASHI¹, Masato YOSHIDA², Seiji YAMAGUCHI¹

1. Department of Pediatrics, Shimane University Faculty of Medicine

2. Department of Biochemistry, Shimane University Faculty of Medicine

G2 Selective screening of inborn errors of metabolism and secondary methyl-malonic aciduria of pregnant women in high risk region of neural tube defects: A gas chromatography-mass spectrometry study in China

Yuan-Zong SONG¹, Bing-Xiao LI¹, Hu HAO¹, Ruo-Lei XIN², Ting ZHANG², Chun-Hua ZHANG³, Keiko KOBAYASHI⁴, Zi-Zeng WANG¹

1. Department of Pediatrics, 1st Affiliated Hospital, Jinan University, Guangzhou, China;

2. Capital Institute of Pediatrics, Beijing, China;

3. Matsumoto Institute of Life Science, Kanazawa, Japan;

4. Department of Molecular Metabolism and Biochemical Genetics, Kagoshima University Graduate School of Medical and Dental Sciences, Japan

G3 Application of GC/MS-based urine targeted profiling to the rapid diagnosis of carbamoylphosphate synthetase I deficiency

Tomiko KUHARA¹, Morimasa OHSE¹, Yoshito INOUE¹, Toshihiro SHINKA¹, Tohru YORIFUJI², Tohru MOMOI³, Tooru OIKAWA⁴, Yoichi MURAKAMI⁴, Yosuke SHIGEMATSU⁵

1. Division of Human Genetics, Medical Research Institute, Kanazawa Medical Univ,

2. Dept of Pediatrics, Kyoto University Hospital,

3. Dept of Pediatrics, Japanese Red Cross Society Wakayama Medical Center,

4. Kitakami Saiseikai Hospital,

5. Dept of Health Science, Faculty of Medical Sciences, University of Fukui

- G4 Application of chemical diagnosis for citrin deficiency**
Chunhua ZHANG¹, Zonghai RUAN¹, Shiziko KOMATSUBARA¹, Yanlong DUAN², Yuanzong SONG³, Keiko KOBAYASHI⁴
1. MILS International
2. Beijing Children Hospital, China
3. Department of Pediatrics, University of Jinan, China
4. Kagoshima Univ, Graduate School of Medical and Dental Sciences

10:00-11:00 Oral Presentation (G5-G8)

- G5 Prenatal diagnosis of propionic acidemia by measuring methylcitric acid in dried amniotic fluid on filter paper using GC/MS**
Yoshito INOUE, Morimasa OHSE, Toshihiro SHINKA, Tomiko KUHARA
Division of Human Genetics, Medical Research Institute, Kanazawa Medical University
- G6 Chemical diagnosis of medium-chain acyl-CoA dehydrogenase deficiency (MCADD) by measuring urinary metabolites using GC/MS and ESI-MS/MS**
Toshihiro SHINKA¹, Yoshito INOUE¹, Morimasa OHSE¹, Kyoko KATAOKA², Yoichi KONDOU², Tomiko KUHARA¹
1. Division of Human Genetics, Medical Research Institute, Kanazawa Medical University
2. Department of Pediatrics, Matsuyama Red Cross Hospital
- G7 Determination of 3-hydroxyisovalerylcarnitine in patients with multiple carboxylase deficiency**
Yasuhiro MAEDA¹, Tetsuya ITO², Hironori OHMI¹, Kyoko YOKOI², Yoko NAKAJIMA², Akihito UETA², Yukihisa KURONO¹, Hajime TOGARI², Naruji SUGIYAMA³
1. Graduate School of Pharmaceutical Sciences, Nagoya City University
2. Graduate School of Medical Sciences, Nagoya City University
3. Aichi-Gakuin University, School of Pharmacy
- G8 The correlation between phenotypes and acylcarnitine profiles generated from fibroblasts in glutaric acidemia type 2: Application of cultured fibroblasts and ESI/MS/MS**
Mitsuru ENDO, Hidenori KOBAYASHI, Yuki HASEGAWA, Seiji YAMAGUCHI
Department of Pediatrics, Faculty of Medical Sciences, University of Shimane

11:00-12:00 Plenary Lecture

PL Molecular imaging and profiling of tissues sections using mass spectrometry: applications in biological and clinical research

Richard M. CAPRIOLI

Vanderbilt University Medical Center, Mass Spectrometry Research Center, U.S.A.

12:00-13:00 Luncheon Seminar 1

12:30-13:20 Board Meeting

13:25-13:50 JSBMS Business Meeting

13:50-16:35 Symposium 1 (S1-1 – S1-5)

S1-1 Quantitative proteomic analysis using ¹⁸O-labeling

Jun SAKAI

Genomic Science Laboratories, Dainippon Sumitomo Pharma Co., Ltd

S1-2 Current state of developing the ultra high resolution high speed imaging mass spectrometric technology (MS microscope)

Yasuhide NAITO^{1,2}

1. The Graduate School for the Creation of New Photonics Industries

2. CREST, JST

S1-3 Use of proteomics in the analyses of rheumatic diseases

Tomohiro KATO

Clinical Proteomics & Molecular Medicine

S1-4 Mass spectrometric approach to the identification of specific glycopeptides of IgA1 hinge region in IgA nephropathy

Hiroko ODANI, Yoshiyuki HIKI

Department of Nephrology, Fujita Health University School of Medicine

S1-5 Cancer biomarker detection by label-free shot-gun proteomics analysis, 2DICAL

Masaya ONO

National Cancer Center Research Institute, Division of Chemotherapy

16:35-16:45 <Break>

16:45-17:45 Oral Presentation (G9-G12)

G9 Determination of N-acetyl Proline-Glycine-Proline in serum using liquid chromatography-tandem mass spectrometry

Akio SHIBATA¹, Ichiro MORIOKA¹, Atsuko TAKEUCHI², Kayoko SAIKI¹, Naoki YOKOYAMA¹, Masafumi MATSUO¹

1. Department of Pediatrics, Kobe University Graduate School of Medicine

2. Kobe Pharmaceutical University

G10 Analysis of melatonin and serotonin in human saliva using column-switching LC/MS

Yukiko HIRABAYASHI, Atsushi MAKI, Hideaki KOIZUMI

Advanced Research Laboratory, Hitachi, Ltd.

G11 Novel metabolic-excretion pathway of bile acids *via* glutathione conjugation

Kuniko MITAMURA¹, Saai WATANABE¹, Yutaka MITSUMOTO¹, Toshihiro SAKAI¹, Mitsuru SOGABE², Tateaki WAKAMIYA², Shigeo Ikegawa¹

1. Faculty of Pharmaceutical Sciences, Kinki University

2. Faculty of Science and Engineering, Kinki University

G12 Mass spectrometric behavior of bile acid N-acetylcysteine conjugates

Saai WATANABE¹, Kuniko MITAMURA¹, Toshihiro SAKAI¹, Mitsuru SOGABE², Tateaki WAKAMIYA², Shigeo Ikegawa¹

1. Faculty of Pharmaceutical Sciences, Kinki University

2. Faculty of Science and Engineering, Kinki University

17:45-18:30 Evening Seminar

ES The Increasing Role of Mass Spectrometry in Neonatal Health: Newborn Screening for Lysosomal Storage Disorders and the Therapies used for their Treatments

Kate ZHANG

Genzyme Corporation, MA U.S.A.

18:30-20:00 Banquet

September 28 (Friday)

9:00-9:30 Oral Presentation (G13-G14)

G13 **Screening of very-long-chain acyl-CoA dehydrogenase (VLCAD) deficiency by tandem mass spectrometry: enzymatic and genetic analysis of positive cases**

Go TAJIMA¹, Nobuo SAKURA², Ikue HATA³, Yosuke SHIGEMATSU⁴

1. Department of Pediatrics, Hiroshima University Graduate School of Biomedical Sciences

2. Nursing House for Severe Motor and Intellectual Disabilities “Suzugamine”

3. Department of Pediatrics, Faculty of Medical Sciences, University of Fukui

4. Department of Health Science, Faculty of Medical Sciences, University of Fukui

G14 **Glutaric acidemia type II and propionic acidemia detected by neonatal screening using ESI-MS/MS**

Masaru FUKUSHI¹, Shosuke NOMACHI¹, Yasuko TAGAMI¹, Atsuko ABE¹, Kaori FUJIKURA¹, Miwa YOSHINAGA¹, Yu OTA¹, Noriyuki OTA¹, Koichi YANO¹, Mitsuru KUBOTA², Masayoshi NAGAO³

1. Sapporo City Institute of Public Health

2. Teine Keijinkai Hospital

3. National Hospital Organization Nishi Sapporo National Hospital

9:30-11:00 Symposium 2 (S2-1 – S2-6)

S2-1 **An approach of improving diagnosis in acylcarnitine analysis by ESI-MS/MS**

Hironori KOBAYASHI, Yuki HASEGAWA, Mitsuru ENDO, Seiji YAMAGUCHI
Department of Pediatrics, Shimane University Faculty of Medicine

S2-2 **Quality control and problems for amino acids screening with MS/MS**

Shosuke NOMACHI

Sapporo City Institute of Public Health

S2-3 **Neonatal screening by tandem mass spectrometry without chemical derivatization**

Kazutaka INAOKA, Akiko MIYAGI, Kiyomi TAKESHIMA, Shinobu NAKAMURA, Akemi IRIE, Toru MIYAMICHI, Minoru YAMADA, Yoshinao WADA
Osaka Medical Center and Research Institute for Maternal and Child Health

S2-4 Examination of the Newborn screening for two or more self-governing bodies using tandem mass spectrometry

Ryuji TASAKI¹, Seiko TAKEDA¹, Naoko BABA¹, Haruo FUJITA¹, Kimitoshi NAKAMURA², Fumio ENDO², Houzou UMEHASHI³

1. The Chemo-Sero Therapeutic Research Institute
2. Department of Pediatrics, Faculty of Medical and Pharmaceutical Sciences, Kumamoto University
3. Kumamoto Health Science University

S2-5 Management of multiple mass screening system using MS/MS

Nobuyuki ISHIGE¹, Jun HARA¹, Akira ANAZAWA¹, Ken SUZUKI¹, Misao OWADA², Teruo KITAGAWA¹

1. Tokyo Health Service Association
2. Faculty of Child Nutrition, Kagawa Nutrition University Graduate School

S2-6 Confirmation of the diagnosis for newborns selected by MS/MS screening

Yosuke SHIGEMATSU¹, Ikue HATA², Yukie TANAKA³

1. Dept of Health Science, University of Fukui
2. Dept of Pediatrics, University of Fukui
3. Center for Advanced Research Support, University of Fukui

11:00-12:15 Oral Presentation (G15-G19)

G15 Identifications of pancreatic cancer-related biomarkers by auto-antibodiomics

Toyofumi NAKANISHI¹, Kyoichi TAKAORI², Yoshiharu MIYAMOTO², Yoko TABUSHI¹, Akira SHIMIZU¹, Yoshihiko TANIGAWA², Takayuki TAKUBO¹

1. Department of Clinical and Laboratory Medicine
2. General and Gastroenterological Surgery, Osaka Medical College

G16 Detection of citrullinated proteins in synovial fluids derived from patients with rheumatoid arthritis and osteoarthritis by proteomics-based analysis

Yoko TABUSHI¹, Toyofumi NAKANISHI¹, Tohru TAKEUCHI², Akira SHIMIZU¹, Takayuki TAKUBO¹

1. Department of Clinical and Laboratory Medicine
2. First Internal Medicine, Osaka Medical College

G17 Identifications of variant hemoglobins by electrospray ionization mass spectrometry: 3 cases of Hb Toranomom(β 112 Cys→Trp)

Ayako MIYAZAKI, Takayuki TAKUBO

Department of Clinical Pathology, Osaka Medical College

G18 Molecular diagnosis program of congenital disorders of glycosylation (CDG)

Yoshinao WADA¹, Machiko KADOYA^{1,2}, Nobuhiko OKAMOTO³

1. Osaka Medical Center and Research Institute for Maternal and Child Health

2. 21st Century Center of Excellence, Osaka University

G19 Application of lipid metabolomics by mass spectrometry to obesity and inflammation

Ryo TAGUCHI^{1,2}, Hiroki NAKANISHI¹, Kadzutaka IKEDA^{1,2}

1. Department of Metabolome, Department of Molecular and Cellular Biology,
Graduate School of Medicine, The University of Tokyo

2. JST, CREST

12:15-13:15 Luncheon Seminar 2

13:15-13:35 Award Lecture

MIPL Application of mass spectrometry to clinical medicine, especially nephrology

Toshimitsu NIWA

Department of Clinical Preventive Medicine, Nagoya University Hospital

13:35-15:05 Symposium 3 (S3-1 – S3-3)

S3-1 On-line/off-line sample preparation methods and LC/MS/MS for analysis of drugs and poisons in biological samples

Takeshi KUMAZAWA¹, Xiao-Pen LEE¹, Keizo SATO¹, Osamu SUZUKI²

1. Department of Legal Medicine, Showa University School of Medicine

2. Department of Legal Medicine, Hamamatsu University School of Medicine

S3-2 The application of tandem mass spectrometry for the analyses of designer drugs

Hitoshi TSUCHIHASHI, Munehiro KATAGI

Forensic Science Laboratory, Osaka Prefectural Police HQ

S3-3 Determination of metal-chelate complexes by electrospray ionization tandem mass spectrometry

Kayoko MINAKATA, Osamu SUZUKI

Department of Legal Medicine, Hamamatsu University School of Medicine

15:05-16:35 Oral Presentation (G20-G25)

G20 Identification of urinary metabolites of 5-methoxy-*N*, *N*-diisopropyltryptamine (5-MeO-DIPT) and its analogues

Kei ZAITSU, Tooru KAMATA, Munehiro KATAGI, Hitoshi TSUCHIHASHI
Forensic Science Laboratory, Osaka Prefectural Police HQ

G21 Highly sensitive and systematic analyses of volatile organic compounds using cryogenic oven trapping with GC/MS

Rina KANEKO¹, Yukari HIRATA¹, Sayaka NAGUMO¹, Makoto HAMAJIMA¹, Hideki HATTORI², Hiroshi SENO², Akira ISHII³

1. Department of Legal Medicine, Fujita Health University School of Medicine

2. Department of Legal Medicine, Aichi Medical University School of Medicine

3. Department of Legal Medicine and Bioethics, Graduate School of Medicine Nagoya University

G22 Simultaneous determination of prednisolone, prednisone, and cortisol by GCMS: estimating unbound prednisolone concentration in patients with nephrotic syndrome during oral prednisolone therapy

Hiromi SHIBASAKI¹, Hideaki NAKAYAMA¹, Yasuji KASUYA¹, Takashi FURUTA¹, Mari TSUCHIYA², Akinori SOEJIMA², Akira YAMADA², and Toshihiko NAGASAWA²

1. Department of Medicinal Chemistry and Clinical Pharmacy, School of Pharmacy, Tokyo University of Pharmacy and Life Sciences

2. The First Department of Internal Medicine, School of Medicine, Kyorin University

G23 Detection of a toxic metabolite of 1BnTIQ, Parkinson's disease-related neurotoxin

Yaichiro KOTAKE¹, Yoko SEKIYA¹, Katsuhiko OKUDA^{1,2}, Shigeru OHTA¹

1. Graduate School of Biomedical Sciences, Hiroshima University

2. Faculty of Pharmaceutical Sciences, Hiroshima International University

G24 Prediction on drug oxidation using on-line EC-MS Analysis: oxidation of butyrophenone analoges to their pyridinium compounds

Kazuo IGARASHI^{1,2}, Neal CASTAGNOLI, Jr.¹

1. Department of Chemistry, Virginia Polytechnic and Institute State of University.

2. Kobe Life Science Analytical Research Center

G25 Deuterium ion substitution in soft ionization in the isotope-dilution method

Toru OBATA¹, Kiyotaka KONUMA², and Akihiko KUSAI²

1. Department of Molecular Cell Biology, Institute of DNA Medicine, Jikei University
School of Medicine

2. MS Team, Application & Research Group, Analytical Instrument Division, JEOL Ltd.

16:35 Closing Remark