

Frontiers in Peptidome Research: Methods for Analysis and Applications

Date and site

Date : January 28 (Wed.) --29(Thur.), 2004
Site : Science Hall, Senri Life Science Center 5F
Address : Shinsenri-Higashimachi, Toyonaka, Osaka 560-0082, Japan
Phone : +81-6-6873-2020
Fax : +81-6-6873-2011

Registration fee: Free

Official language: English

Mixer party:

Date & Time: Wednesday, January 28, 2004. 18:30-20:00

Members of the organizing committee

Naoto Minamino, National Cardiovascular Center

Kenji Kangawa, National Cardiovascular Center

Toshifumi Takao, Institute for Protein Research, Osaka University

Program

January 28, Wednesday

9:00-9:05

Opening remarks

Takeshi Oishi, Research Promotion Committee of the Peptidome Project

9:05-10:45

Session 1: Peptidomics in the comprehensive analysis of endogenous peptides

Chair: P. Andren and N. Minamino

1. Peptidome project: **Analysis of peptides in pig and mouse brain for the Peptidome database**

Naoto Minamino, Junko Isoyama-Tanaka, Takahiro Kihara, Matsui Yasuko, Hiromiki Kuwahara

Department of Pharmacology, National Cardiovascular Center Research Institute,

Osaka, Japan

2. Peptidome: Data acquisition, storage and presentation

Masaharu Isoyama

Department of Information, Protein Research Foundation, Osaka, Japan

3. Peptidomics-based discovery of peptide tumor markers

Kazuki Sasaki

Growth Factor Division, National Cancer Center Research institute, Tokyo, Japan

10:45-11:00

Coffee Break

11:00-12:10

4. Peptidomics-based discovery of novel neuropeptides

Per E. Andren

Medical Mass Spectrometry Research Laboratory, Uppsala University, Sweden

5. Systematic identification of peptide signaling molecules in *Hydra* --Recent progress in functional analysis of neuropeptides--

Toshitaka Fujisawa

Department of Developmental Genetics, National Institute of Genetics, Mishima, Japan

12:10-13:10

Lunch

13:10-15:20

Session 2: Peptidomics and screening of new peptides

Chair: L. Schoofs and T. Haga

6. Peptidomics in insects: **Peptide identification in the post-genome era**

Liliane Schoofs, Geert Baggerman

Laboratory for Developmental Physiology, **Genomics and Proteomics**

Katholieke Universiteit Leuven, Belgium

7. Structure and action of the cardiovascular regulatory neuropeptides in *Aplysia*

Yasuo Furukawa, Kosei Sasaki, Fumihiko Morishita, Osamu Matsushima

Department of Biological Science, Faculty of Science, Hiroshima University,

Hiroshima, Japan

8. Identification of novel RFamide peptide genes by utilizing databases

Shuji Hinuma

Discovery Research Laboratories, Pharmaceutical Research Division, Takeda Chemical Industries, Tsukuba, Japan

9. Receptor-Galpa fusion proteins as a peptide-screening system

Tatsuya Haga, Shigeki Takeda, Hinako Suga, Naoto Minamino

Institute for Biomolecular Science, Gakushuin University, Tokyo, Japan

15:20-15:35

Coffee break

15:35-18:00

Session 3: Peptidomics and new biologically active peptides

Chair: H. Vaudry and N. Nakazato

10. Peptidomics from amphibian peptides to mammalian peptides

Hubert Vaudry, Cynthia Dujardin, Hervé Tostivint, Jérôme Leprince, Marie-Christine Tonon, J. Michael Conlon, Youssef Anouar, Isabelle Lihmann, Nicolas Chartrel
Laboratory of Cellular and Molecular Neuroendocrinology, INSERM, University of Rouen, France

11. Identification and functional characterization of bioactive peptides from amphibian and reptile

Tai Kubo, Suzuko Kobayashi, Gandhi R. Baptista, Xianyu Yang, Hidetoshi Inagaki, Yuka Nakajima, Mami Takeda, Hikaru Urano, Tadashi Kimura, Alvaro Prieto-da-Silva, Tetsuo Yamane

Neuroscience Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan

12. Calcitonin receptor-stimulating peptides: new members of the CGRP family with unique biological activity

Takeshi Katafuchi, Naoto Minamino

LDEBIS and Department of Pharmacology, National Cardiovascular Center Research Institute, Osaka, Japan

13. Ghrelin, a new regulator in the endocrine, central nervous and cardiovascular

systems

Kenji Kangawa, Hiroshi Hosoda, Masayasu Kojima

Department of Biochemistry, National Cardiovascular Center Research Institute,
Osaka, Japan

14. Feeding regulation by recently discovered peptides

Masamitsu Nakazato, Yukari Date, Naoto Minamino, Kenji Kangawa

Third Department of Internal Medicine, Miyazaki Medical College, University of
Miyazaki, Miyazaki, Japan

18:30-20:00

Mixer party

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January 29, Thursday

9:00-10:30

Session 4: Peptidomics and peptide conformation

Chair: M. Ishiguro and H. Mizushima

15. Integration of peptide database to multiple databases, and touch and feel system
for peptide representation

Hiroshi Mizushima, Hiroshi Nagata, Hiroshi Tanaka

Cancer Information Division, National Cancer Center Research Institute, Tokyo,
Japan

16. Studies on receptor-bound peptide conformation

Masaji Ishiguro, Kenji Sugase, Takahiro Hirano

Suntory Institute for Bioorganic Research, Osaka, Japan

17. Free-energy landscape of peptides and conformational classification

Junichi Higo

School of Life Science, Tokyo University of Pharmacy and Life Science, Tokyo,
Japan

10:30-10:45

Coffee break

10:45-11:55

Session 5: Proteomics and emerging technology I

Chair: M. Kalkum and T. Takao

18. Mass spectrometry for peptidomic and proteomic analysis

Toshifumi Takao, Yoshinori Satomi, Jorge Fernandez-de-Cossio, Masami Matsubae
Research Center for Structural and Functional Proteomics, Institute for Protein
Research, Osaka University, Osaka, Japan

19. Hypothesis-driven proteomics

Markus Kalkum

Beckman Research Institute of the City of Hope, California, USA

11:55-13:00

Lunch

13:00-14:15

Session 6. Proteomics and emerging technology II

Chair: W. Blackstock and T. Takao

20. New tools for proteome analysis

Osamu Nishimura

Life Science Laboratory/Proteomics Research Center, Shimadzu Corporation, Kyoto,
and Research Center for Structural and Functional Proteomics, Institute for Protein
Research, Osaka University, Osaka, Japan

21. Design and performance of a new hybrid LC-QIT-TOF mass spectrometer

Kozo Miseki, Jun-ichi Taniguchi, Eizo Kawatoh, Shin-ichi Yamaguchi, Hiroto Itoi,
Jun-ichi Koide, Takami Yamada, Junko Iida, Shaun Bilsborough
Analytical and Measuring Instrument Division, Shimadzu Corporation, Kyoto, Japan

22. Atmospheric pressure MALDI-orthogonal acceleration TOFMS
(APMALDI-oaTOFMS): a new tool for proteomics and peptidomics research

Jun Tamura, Tetsuichiro Morita, Kenji Nagatomo, Phillip Tan
Analytical Instruments Division, JEOL Ltd., Tokyo, Japan

23. Data mining and database systems for large-scale proteome analyses

Takeshi Sakamoto

Life Science Group, Hitachi, Ltd., Saitama, Japan

14:15-14:30

Coffee break

14:30-16:50

Session 7: Proteomics and Proteome

Chair: Y.K. Paik and T. Nishimura

24. Cancer proteomics

Young-Ki Paik

Yonsei Proteome Research Center, Department of Biochemistry, Yonsei University
Seoul, Korea

25. A new strategy of large-scale protein profiling in clinical proteomics

Toshihide Nishimura

The Clinical Proteome Center, Tokyo Medical University, Tokyo, Japan

26. The strategy in proteomics and proteome informatics in TMIG

Toshifusa Toda, Hiraku Morisawa

Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan

27. Building a cell map: Experimental approaches to pathway expansion

Walter Blackstock

Protein Partners, United Kingdom, and Tokyo Medical University, Japan

16:50-16:55

Closing remarks

Naoto Minamino, National Cardiovascular Center Research Institute