



Tohoku University Global COE
for conquest of Signal Transduction Diseases with “Network Medicine”

The 1st International Symposium

~ Challenge to Medical Innovation ~

Date: Dec.7th (Mon.),2009 8:30-17:20

Dec.8th (Tue.),2009 8:35-17:25

Place: Gonryo hall, Sendai

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Dec. 7th, Monday

8:30 — 8:35 **Opening Remark** Yoshitomo Oka

Session 1: Networks in Metabolic Regulation and Diseases

Chairperson, Hideki Katagiri (Tohoku University) & Toru Nakano (Osaka University)

8:35 — 9:05 **Obesity induces pancreatic β cell proliferation with neuronal network originating in the liver**

Hideki Katagiri (Tohoku University)

9:05 — 9:45 **Control of lipid metabolism by nuclear receptors**

Peter Tontonoz (University of California, USA)

~ Coffee Break (20min) ~

Session 2: Networks in Metabolic Regulation and Diseases

Chairperson, Masanobu Satake (Tohoku University) & Masayuki Yamamoto (Tohoku University)

10:05 — 10:25 **Role of carbonyl stress on the pathogenesis of CKD, CVD and metabolic syndrome**

Takefumi Mori (Tohoku University)

10:25 — 11:05 **Role of large Maf transcription factors in development and function of pancreatic and cells in vivo**

Satoru Takahashi (University of Tsukuba)

11:05 — 11:45 **Klotho and FGF19 subfamily; newly discovered metabolic regulators**

Yo-ichi Nabeshima (Kyoto University)

~ Lunch ~

Session 3: Molecular Networks in Cancer

Chairperson, Toshihiro Nukiwa (Tohoku University) & Nobuo Yaegashi (Tohoku University)

- 12:55 — 13:15 **The Nrf2-Keap1 system and cancer**
Masayuki Yamamoto (Tohoku University)
- 13:15 — 13:35 **Differential tissue specificity of ubiquitin ligase SCF^{Fbxw7}**
Keiko Nakayama (Tohoku University)
- 13:35 — 13:55 **Quantitative targeted absolute proteomics (QTAP) for the tumor drug resistance**
Testuya Terasaki (Tohoku University)
- 13:55 — 14:35 **Deciphering the molecular mechanisms of human T-cell acute lymphoblastic leukemia (T-ALL): from basic research to new targets for T-ALL treatment**
Paul-Henri Roméo (The Institute of Cellular and Molecular Radiobiology, France)
- 14:35 — 15:40 **Poster Session**

Session 4: Molecular Networks in Cell Communication

Chairperson, Masao Ono (Tohoku University) & Satoru Takahashi (University of Tsukuba)

- 15:40 — 16:20 **Mechanism in sequential differentiation of neural stem cells mediated by neuron - stem cell interaction**
Kinichi Nakashima (Nara Institute of Science and Technology)
- 16:20 — 16:40 **Roles of OX40 signals in the generation and maintenance of memory T cells**
Naoto Ishii (Tohoku University)
- 16:40 — 17:00 **Genome-wide screening of imprinted genes by meDIP-on-chip**
Takahiro Arima (Tohoku University)
- 17:00 — 17:20 **A novel regulatory system for TLR9 and autoimmunity mediated by PIR-B in B-1 cells**
Toshiyuki Takai (Tohoku University)

Reception at the Gonryo hall

Dec. 8th, Tuesday

Session 5: Gene Regulatory Networks and Epigenetics

Chairperson, Yo-ichi Nabeshima (Kyoto University) & Kinichi Nakashima (Nara Institute of Science and Technology)

8:30 — 9:10 **Gene regulatory networks and chromatin dynamics orchestrating innate and adaptive immune cell fates**

Harinder Singh (The University of Chicago, USA)

9:10 — 9:30 **Decoding B cell responses based on gene regulatory networks**

Kazuhiko Igarashi (Tohoku University)

9:30 — 9:50 **Structural basis of alternative DNA recognition by Maf transcription factors**

Hirofumi Kurokawa (Tohoku University)

9:50 — 10:30 **Epigenetic gene regulation by GATA transcription factors**

Toru Nakano (Osaka University)

~ Coffee Break (20min) ~

Session 6: Molecular Networks in Adipocyte Differentiation

Chairperson, Kensaku Mizuno (Tohoku University) & Sadayoshi Ito (Tohoku University)

10:50 — 11:30 **Altered Basal Metabolism and Increased Obesity in Mice with Targeted Deletion of Rho-associated Coiled-coil Forming Kinase (ROCK)-2**

James K. Liao (Brigham & Women's Hospital and Harvard Medical School, USA)

11:30 — 11:50 **The Peroxisome Proliferator-Activated Receptor γ /Retinoid X Receptor α Heterodimer Targets the Histone Modification Enzyme PR-Set7/Setd8 Gene and Regulates Adipogenesis through a Positive Feedback Loop**

Masashi Okamura (Tohoku University)

~ Lunch ~

Session 7: Molecular Networks in Cardiovascular Systems

Chairperson, Kensaku Mizuno (Tohoku University) & Sadayoshi Ito (Tohoku University)

- 13:00 — 13:20 **Important roles of endothelium-derived reactive oxygen species in cardiovascular and metabolic regulation**
Hiroaki Shimokawa (Tohoku University)
- 13:20 — 13:40 **A novel intrinsic system for vascular stress tolerance**
Yasufumi Sato (Tohoku University)
- 13:40 — 14:00 **Development of novel therapeutic agents for the treatment of renal cardiovascular diseases: inhibitors of plasminogen inhibitor 1 and oxygen sensor prolylhydroxylase**
Toshio Miyata (Tohoku University)
- 14:00 — 15:00 **Poster Session**

Session 8: Stem Cell Systems

Chairperson, Kohji Nishida (Tohoku University) & Setsuya Aiba (Tohoku University)

- 15:00 — 15:20 **Bone Marrow-derived mesenchymal stem cells; A hope for auto-cell transplantation therapy for neuro- and muscle-degenerative diseases**
Mari Dezawa (Tohoku University)
- 15:20 — 16:00 **Therapeutic plasticity of mesenchymal stem cells**
Antonio Uccelli (University of Genoa, Italy)
- 16:00 — 16:40 **Adult human retinal stem cells and the potential for treating blindness**
Derek van der Kooy (University of Toronto, Canada)
- 16:40 — 17:20 **Pluripotent adult stem cell from olfactory mucosa**
Alan Mackay-Sim (National Centre for Adult Stem Cell Research, Griffith University, Australia)
- 17:20 — 17:25 **Concluding Remark** Masayuki Yamamoto

