

Fundamental Biological Principles and Cancer

Cancer Research Institute of Kanazawa University
October 13-14, 2022
Kanazawa university, Japan

Thursday, October 13, 2022

12:30-13:00 **Registration**

13:00-13:05 **Opening Remarks**

Kunio Matsumoto (Director of Cancer Research Institute, Vice president, Kanazawa University)

Session 1 (Chair Noriko Goto, Masaya Ueno)

13:05-13:30 S-01: **Tetsuro Yoshimaru** (Institute of Advanced Medical Sciences, Tokushima University)
The plasma membrane BIG3-PHB2 complex contributes to the acquisition of trastuzumab-resistance in HER2-positive breast cancer

13:30-13:55 S-02: **Kozo Tanaka** (Institute of Development, Aging and Cancer, Tohoku University)
Chromosomal instability induced by chromosome dynamics in cancer cells

13:55-14:07 Y-01: **Yutaka Kasai** (The Institute of Medical Science, The University of Tokyo)
Trans-homophilic interaction of CADM1 promotes organ infiltration of T-cell lymphoma by adhesion to vascular endothelial cells

14:07-14:19 Y-02: **Shunya Tsuji** (Research Institute for Microbial Diseases, Osaka University)
SARS-CoV-2 and cellular senescence

14:19-14:31 Y-03: **Taisho Yamada** (Institute for Genetic Medicine, Hokkaido University)
RIG-I restrains SARS-CoV-2 replication in human lung cells without activation of innate immune signaling

14:31-14:45 **Break**

International Symposium (Chair Masanobu Oshima, Eishu Hirata)

14:45-14:50 **Opening Remarks**

Shinichi Nakamura (Trustee(Research, Social Co-creation, and Graduate School Support), Kanazawa University)

14:50-15:20 I-01: **Koji Itahana** (DUKE-NUS, Singapore)
The potential role of multi-drug resistance protein ABCB1 in tumor suppression in bats

15:20-15:32 Y -04: **Yasuto Takeuchi** (Cancer Research Institute, Kanazawa University)
The membrane-linked adaptor FRS2 · fashions a cytokine-rich microenvironment that promotes breast cancer carcinogenesis

15:32-16:02 I -02: **S. Tiong Ong** (DUKE-NUS, Singapore)
Predicting primary resistance to cancer targeted therapies at diagnosis: lessons from chronic myeloid leukemia

16:02-16:10 **Break**

16:10-16:35 S -03: **Yoshikazu Johmura** (Cancer Research Institute, Kanazawa University)
Identification and functional analysis of senescent cells in tumor microenvironment

16:35-17:05 I -03: **Enrico Petretto** (DUKE-NUS, Singapore)
Systems Genetics identifies WWP2 as a new target for fibrotic disease in fibroblasts and macrophages

17:05-17:20 **Break**

Session 2 (Chair Atsushi Hirao)

17:20-17:45 S -04: **Kosuke Hashimoto** (Institute for Protein Research, Osaka University)
Single-cell transcriptome analysis of human immune cells and early embryos

17:45-17:57 Y -05: **Ryoji Kawakami** (Institute for Frontier Life and Medical Sciences, Kyoto University)
Coordinated activation of enhancer elements for thymic Treg development and immunological self-tolerance

17:57-18:09 Y -06: **Akiko Satoh** (Institute of Development, Aging and Cancer, Tohoku University)
The role of hypothalamic neurons in sleep, aging and longevity

Friday, October 14, 2022

Session 3 (Chair Dominic Voon, Kazuhiro Murakami)

- 9:00-9:25 S -05: **Kazuhiro Suzuki** (Research Institute for Microbial Diseases, Osaka University)
Novel control mechanisms of lymphocyte trafficking
- 9:25-9:50 S -06: **Izumi Tetsuro** (Institute for Molecular and Cellular Regulation, Gunma University)
Roles of the GDF3-ALK7 axis in adiposity
- 9:50-10:02 Y -07: **Junko Sasaki** (Medical Research Institute, Tokyo Medical and Dental University)
Premature ovarian insufficiency in mice lacking phosphoinositide-metabolizing enzymes
- 10:02-10:14 Y -08: **Kou Motani** (Institute of Advanced Medical Sciences, Tokushima University)
ACBD3 forms specialized ER-Golgi contact sites to drive the ER exit of STING
- 10:14-10:26 Y -09: **Macpherson Tom** (Institute for Protein Research, Osaka University)
Cell type-specific control of reward learning in the brain
- 10:26-10:40 **Break**

Session 4 (Chair Toshinari Minamoto, Ryu Imamura)

- 10:40-11:05 S -07: **Nobuo Noda** (Institute for Genetic Medicine, Hokkaido University)
Molecular mechanisms underlying autophagosome biogenesis
- 11:05-11:17 Y -10: **Eiji Miyauchi** (Institute for Molecular and Cellular Regulation, Gunma University)
Gut microbiota modulates inflammation in the central nervous system
- 11:17-11:29 Y -11: **Minako Ito** (Medical Institute of Bioregulation, Kyushu University)
Immune cell dynamics and role in central nervous system diseases
- 11:29-11:41 Y -12: **Jun Hatakeyama** (Institute of Molecular Embryology and Genetics, Kumamoto University)
Strategies for the expansion of cerebral cortex in primates
- 11:41-13:00 **Lunch**

Poster Session & Coffee Break

- 13:00-14:00 P -01: **Yukako Nishimura** (Institute for Genetic Medicine, Hokkaido University)
A cross-talk between microtubules and focal adhesions regulates dynamics of actin cytoskeleton
- P -02: **Madoka Kawaguchi** (Institute of Development, Aging and Cancer, Tohoku University)
Extracellular Domains I and II of CD44 mediate its trans-homophilic dimerization and tumor cluster aggregation

- P-03: **Ryosuke Kobayashi** (Institute for Molecular and Cellular Regulation, Gunma University)
Epigenetic dysregulations in the lysine methyltransferase (KMT2) deficient endometrial cancer cells
- P-04: **Nichika Sato** (The Institute of Medical Science, The University of Tokyo)
A novel E3 ligase is involved in Unfolded Protein Response through Ubiquitination of eS7A and up-regulation of Hac1 production in yeast
- P-05: **Yoshimi Okamoto** (Medical Research Institute, Tokyo Medical and Dental University)
Molecular mechanism of YAP-dependent hepatocyte elimination
- P-06: **Yuanyuan Zhang** (Cancer Research Institute, Kanazawa University)
Application of CDK4/6 inhibition therapies to PDACs
- P-07: **Yoko Fujita-Fujiharu** (Institute for Frontier Life and Medical Sciences, Kyoto University)
Structural basis of Marburg virus helical nucleoprotein-RNA complex formation
- P-08: **Yuki Akieda** (Research Institute for Microbial Diseases, Osaka University)
Abnormal pH environment interrupts cell competition-mediated developmental robustness
- P-09: **Koki Sakurai** (Institute for Protein Research, Osaka University)
Altered behavior and increased neuroinflammation in Importin α 4/KPNA4 KO mice
- P-10: **Yosuke Matsushita** (Institute of Advanced Medical Sciences, Tokushima University)
RHBDL2 has essential roles for glutaminolysis and chemoresistance in triple negative breast cancer
- P-11: **Akinobu Matsumoto** (Medical Institute of Bioregulation, Kyushu University)
Physiological functions of novel proteins encoded by hidden ORFs
- P-12: **Ryuki Shimada** (Institute of Molecular Embryology and Genetics, Kumamoto University)
The female-specific regulation of meiotic cell cycle in murine germ cells
- P-13: **Shinya Ohta** (Institute for Genetic Medicine, Hokkaido University)
Formation of pericentromeric heterochromatin via ZNF518s that link satellite DNA to heterochromatin
- P-14: **Fang Zhenzhou** (Institute of Development, Aging and Cancer, Tohoku University)
Aurora A-dependent polyubiquitination of OLA1 regulates centrosome number through controlling the
- P-15: **Ikuko Maejima** (Institute for Molecular and Cellular Regulation, Gunma University)
The role of small GTPase protein Rab35 in brain development
- P-16: **Hirofumi Kosuge** (The Institute of Medical Science, The University of Tokyo)
Identification and validation of multi-specific interactions of a tumor suppressor protein PRELP
- P-17: **Yoshitaka Murota** (Medical Research Institute, Tokyo Medical and Dental University)
Establishment of a high-content polymer array screening system to explore niche mimics for cancerous cells
- P-18: **Masaya Ueno** (Cancer Research Institute, Kanazawa University)
Lysosomes regulate oncogenic signals in acute myelogenous leukemia

P-19: **Kazunari Aoki** (Institute for Frontier Life and Medical Sciences, Kyoto University)
Identification of factors essential for CXCR4 signaling in leukemic cells using CRISPR dropout screens

- P-20: **Liu Yafei** (Research Institute for Microbial Diseases, Osaka University)
An infectivity-enhancing site on the SARS-CoV-2 spike protein targeted by antibodies
- P-21: **Sho Tabata** (Institute for Protein Research, Osaka University)
Induction of cellular senescence by sustained NF κ B activation
- P-22: **Motonori Matsusaki** (Institute of Advanced Medical Sciences, Tokushima University)
Endoplasmic Reticulum Stress Sensor IRE1 Directly Detects Misfolded Insulin by Oligomerization
- P-23: **Kazuhiko Kawata** (Medical Institute of Bioregulation, Kyushu University)
Essential role of ER membrane complex subunit 1 (EMC1) in B cell development
- P-24: **Yasushi Yabuki** (Institute of Molecular Embryology and Genetics, Kumamoto University)
RNA phase transition disrupts α -Synuclein proteostasis

Session 5 (Chair Chiaki Takahashi)

- 14:00-14:25 S-08: **Masaki Takahashi** (The Institute of Medical Science, The University of Tokyo)
Generation of RNA aptamers and their applications in molecular biology
- 14:25-14:50 S-09: **Itoshi Nikaïdo** (Medical Research Institute, Tokyo Medical and Dental University)
Identification of chromatin instability at the single-cell level from transcriptome data
- 14:50-15:15 S-10: **Yasuyuki Ohkawa** (Medical Institute of Bioregulation, Kyushu University)
Chromatin regulation during skeletal muscle regeneration

15:15-15:25 **Break**

Session 6 (Chair Takashi Suda)

- 15:25-15:50 S-11: **Takahiro Ito** (Institute for Frontier Life and Medical Sciences, Kyoto University)
Regulation on stem cells in myeloid leukemia: a metabolic perspective
- 15:50-16:15 S-12: **Minetaro Ogawa** (Institute of Molecular Embryology and Genetics, Kumamoto University)
Modeling hematopoietic stem cell development in a dish
- 16:15-16:30 **Award Ceremony & Closing Remarks**
Kunio Matsumoto (Director of Cancer Research Institute, Vice president, Kanazawa University)