

# Program

**June 27, 2013**

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Registration 12:00 -

**12:55 - 13:00    Opening Remarks: Hiroo Iwata**

(Director of Institute for Frontier Medical Sciences, Kyoto University)

**13:00 - 14:15    Session 1. Extracellular Matrix Engineering**

**Chair: Hiroo Iwata and Tatsuo Nakamura**

**Engineering hydrogels as synthetic extracellular matrices for cell culture and tissue regeneration [30 min]**

**Kristi S. Anseth** (University of Colorado, U.S.A.)

**Functional hydrogels as cell scaffolds for tissue regeneration [20 min]**

**Masaya Yamamoto** (Institute for Frontier Medical Sciences, Kyoto University)

**Untangling the complexity of the extracellular matrix: From the matrixome database to the innovation of stem cell technology [25 min]**

**Kiyotoshi Sekiguchi** (Institute for Protein Research, Osaka University)

**14:15 - 14:25    Intermission 1.**

**14:25 - 15:40    Young Investigator Forum 1.**

**Chair: Akihiro Kusumi and Shimon Sakaguchi**

**Pleiotropic nature of hematopoietic stem cell responses to an inflammatory cytokine IL-1 [15 min]**

**Makoto Otsu** (Institute of Medical Science, University of Tokyo)

**Distribution and function of IL-7-expressing cells in intestinal tissues [15 min]**

**Takahiro Hara** (Institute for Virus Research, Kyoto University)

**Regulation of innate immune response through a CCCH-type zinc finger protein, ZAPS [15 min]**

**Sumio Hayakawa** (Institute for Genetic Medicine, Hokkaido University)

**A cytotoxic type III secretion effector of *Vibrio parahaemolyticus* targets vacuolar H<sup>+</sup>-ATPase subunit c and ruptures host cell lysosomes [15 min]**

**Shigeaki Matsuda** (Research Institute for Microbial Diseases, Osaka University)

**Filamin acts as a key regulator in epithelial defence against transformed cells [15 min]**

**Mihoko Kajita** (Institute for Genetic Medicine, Hokkaido University)

**15:40 - 16:00    Intermission 2.**

**16:00 - 16:50    Session 2. Regulation of Organogenesis**

**Chair: Jun Takahashi and Norio Nakatsuji**

**Physical forces as a regulator of morphogenesis and homeostasis - paving a way to medical applications – [25 min]**

**Toshihiko Ogura** (Institute of Development, Aging and Cancer, Tohoku University)

**Ultradian oscillations in somitogenesis and neurogenesis [25 min]**

Ryoichiro Kageyama (Institute for Virus Research, Kyoto University)

**17:00 - 19:00 Poster Session**

**P-1**

**Inferring gene regulatory network from RNA-seq data of mouse hematopoietic stem and progenitor cells**

**Sung-Joon Park** (Institute of Medical Science, University of Tokyo)

**P-2**

**Roles of maternal embryonic leucine zipper kinase, Melk, in stem cells**

**Rika Saito** (Institute of Medical Science, University of Tokyo)

**P-3**

**Identification of proteins binding to the unique domain in RANK required to establish osteoclastogenic signals**

**Kazuaki Tsumura** (Institute of Medical Science, University of Tokyo)

**P-4**

**Characterization of PCTK1 as a Novel Regulator for Oriented Cell Division**

**Sayaka Iwano** (Institute for Virus Research, Kyoto University)

**P-5**

**Oscillatory expression of bHLH transcriptional factors in neural stem cells**

**Itaru Imayoshi** (Institute for Virus Research, Kyoto University)

**P-6**

**The Lin28b/ let-7 axis regulates the proliferation of embryonic hepatoblasts**

**Yasuo Takashima** (Medical Institute of Bioregulation, Kyushu University)

**P-7**

**Identification of a novel mTOR target linking to transcriptional regulation and cancer progression**

**Hirokazu Nakatsumi** (Medical Institute of Bioregulation, Kyushu University)

**P-8**

**Selective requirement of DOCK8 for dendritic cell migration in three-dimensional environments**

**Yosuke Harada** (Medical Institute of Bioregulation, Kyushu University)

**P-9**

**C-type lectin receptor Mincle and MCL mediate acquired immunity induced by mycobacterial glycolipid TDM**

**Daiki Mori** (Medical Institute of Bioregulation, Kyushu University)

**P-10**

**SPACA1-deficient male mice are infertile with abnormally shaped sperm heads reminiscent of globozoospermia**

**Yoshitaka Fujihara** (Research Institute for Microbial Diseases, Osaka University)

**P-11**

**The I $\kappa$ B kinase complex regulates the stability of cytokine-encoding mRNA induced by TLR/IL-1R by controlling degradation of regnase-1**

**Hidenori Iwasaki** (Research Institute for Microbial Diseases, Osaka University)

**P-12**

**Micro RNA-124a is required for hippocampal axogenesis and retinal cone survival through Lhx2 suppression**

**Shoichi Irie** (Institute for Protein Research, Osaka University)

**P-13**

**Quantitative analysis of deamidation and isomerization in  $\beta$ 2-microglobulin by  $^{18}\text{O}$  labeling**

**Masafumi Fukuda** (Institute for Protein Research, Osaka University)

**P-14**

**The novel PI3K-mTOR inhibitor, BEZ235, circumvents erlotinib-resistance of EGFR mutant lung cancer cells triggered by HGF**

**Takako Sano** (Cancer Research Institute, Kanazawa University)

**P-15**

**CCL3-CCR5 axis regulates progression of fibrosis/carcinogenesis occurring as a result of chronic colitis in mice**

**Soichirou Sasaki** (Cancer Research Institute, Kanazawa University)

**P-16**

**Roles of mTORC1 signaling in the regulation of glioma malignancy**

**Daisuke Yamada** (Cancer Research Institute, Kanazawa University)

**P-17**

**Dullard gene regulates endochondral bone formation via suppression of TGF- $\beta$  signaling during skeletal development**

**Tadayoshi Hayata** (Medical Research Institute, Tokyo Medical and Dental University)

**P-18**

**Mouse embryonic stem cell-based drug screen for novel modulators of mesoderm and ectoderm differentiation**

**Yoshimi Uchida** (Medical Research Institute, Tokyo Medical and Dental University)

**P-19**

**IQGAP1 functions as a modulator of Dishevelled nuclear localization in Wnt signaling**

**Toshiyasu Goto** (Medical Research Institute, Tokyo Medical and Dental University)

**P-20**

**Maintenance of immature phenotype of the hematopoietic cell clusters in the aorta-gonad-mesonephros region by Sox17**

**Ikuo Nobuhisa** (Medical Research Institute, Tokyo Medical and Dental University)

**P-21**

**Strawberry notch1, a helicase-related chromatin factor, regulates development of mouse preimplantation embryo**

**Yusuke Watanabe** (Institute of Development, Aging and Cancer, Tohoku University)

**P-22**

**Regulation of BRCA1/BARD1 expression by tumor-related E3 ubiquitin ligase**

**Yumiko Furukawa** (Institute of Development, Aging and Cancer, Tohoku University)

**P-23**

**Biomechanical simulation of multicellular tissue morphogenesis: Effects of apical contractility on epithelial curvatures**

**Satoru Okuda** (Institute for Frontier Medical Sciences, Kyoto University/ RIKEN CDB)

**P-24**

**Therapeutic application of EP2 agonist for cartilage regeneration**  
**Makoto Fukuta** (Institute for Frontier Medical Sciences, Kyoto University)

**P-25**  
**Regeneration of human tumor antigen-specific T cells using the iPSC technology**  
**Kyoko Masuda** (Institute for Frontier Medical Sciences, Kyoto University)

**P-26**  
**Fabrication of cell aggregates containing biodegradable hydrogel microspheres to control cell behaviors**  
**Shuheiji Tajima** (Institute for Frontier Medical Sciences, Kyoto University)

**P-27**  
**Suppression of allo-immune response by ES cell-derived regulatory macrophage-like cell**  
**Hajime Sasaki** (Institute for Genetic Medicine, Hokkaido University)

**19:00 - 21:00 Reception. MC: Junya Toguchida**

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**9:00 - 10:15 Young Investigator Forum 2.**  
**Chair: Taiji Adachi and Gen Kondo**

**Regulation of chromatin demethylation [15 min]**  
**Yu-ichi Tsukada** (Medical Institute of Bioregulation, Kyushu University)

**Functional role of ciliary kinases in cilia development and human diseases [15 min]**  
**Yoshihiro Omori** (Institute for Protein Research, Osaka University)

**Gastric tumorigenesis by activation of tumor necrosis factor-alpha signaling in bone marrow-derived cells [15 min]**  
**Tomo-o Ishikawa** (Cancer Research Institute, Kanazawa University)

**The mechanisms of hair follicle aging and stem cell regulation [15 min]**  
**Hiroyuki Matsumura** (Medical Research Institute, Tokyo Medical and Dental University)

**Max is a repressor of germ-cell-related gene expression in mouse embryonic stem cells [15min]**  
**Ikuma Maeda** (Institute of Development, Aging and Cancer, Tohoku University)

**10:15 - 10:35 Intermision 3.**

**10:35 - 11:50 Session 3. Ontogeny of Hematopoietic Cell Lineages**  
**Chair: Takashi Nagasawa and Hirofumi Suemori**

**Epigenetic regulation of neural stem cell differentiation and brain function [25 min]**  
**Tetsuya Taga** (Medical Research Institute, Tokyo Medical and Dental University)

**The lineage restriction process during hematopoiesis: revision of the classical concept of the myeloid-lymphoid dichotomy [20 min]**  
**Hiroshi Kawamoto** (Institute for Frontier Medical Sciences, Kyoto University)

**Revisiting the ontogeny of the mononuclear phagocyte system: embryonic and adult hematopoietic contributions [30 min]**  
**Florent Ginhoux** (Agency for Science, Technology and Research, Singapore)

**11:50 - 13:30 Lunch and Network Organizer Meeting**

**13:30 - 14:45     Session 4. Cell Differentiation and Tissue Induction**  
**Chair: Yuji Hiraki and Takashi Tada**

**Direct reprogramming of fibroblasts to hepatocyte-like cells** [25 min]  
**Atsushi Suzuki** (Medical Institute of Bioregulation, Kyushu University)

**Regulatory mechanisms governing the establishment of the chondro-tendinous/ligamentous junction** [20 min]  
**Chisa Shukunami** (Institute for Frontier Medical Sciences, Kyoto University)

**Regulation of tendon induction, patterning and elongation** [30 min]  
**Ronen Schweitzer** (Shriners Hospital for Children and Oregon Health and Science University, U.S.A.)

**14:45 - 15:05     Intermission 4.**

**15:05 - 15:55     Session 5. Immune responses**  
**Chair: Nobuko Hosokawa and Shoichiro Sumi**

**A novel strategy of immune regulation in the era of regenerative medicine** [25 min]  
**Ken-ichiro Seino** (Institute for Genetic Medicine, Hokkaido University)

**Chemokine-mediated fibrotic changes in tumor development and progression** [25 min]  
**Naofumi Mukaida** (Cancer Research Institute, Kanazawa University)

**15:55 - 16:45     Session 6. Vascular Differentiation and Regeneration**  
**Chair: Atsuko Sehara and Jun Yamashita**

**Identification of endothelial stem like cells in the preexisting blood vessels** [25 min]  
**Nobuyuki Takakura** (Research Institute for Microbial Diseases, Osaka University)

**Protease activation triggers the process of tissue regeneration** [25 min]  
**Koichi Hattori** (Institute of Medical Science, University of Tokyo)

**16:45 - 17:00 Closing**

Commendation for Young Investigator Award & Poster Presentation Award

**Closing Remarks: Yuji Hiraki**

(Associate Director of Institute for Frontier Medical Sciences, Kyoto University)