

# 12th Stem Cell Research Symposium

## The First Day : Friday, May 30

	Oral Presentation	Poster Discussion
9:00	9:00~9:10 <b>Opening Remarks</b>	
	9:10~10:25 <b>Session 1</b> <b>Hematopoietic Stem Cells (1)</b> Chair : Atsushi Iwama	
10:00	10:25~11:25 <b>Session 2</b> <b>Hematopoietic Stem Cells (2)</b> Chair : Yoshiaki Sonoda	
11:00	11:25~11:40 <b>Coffee Break</b>	
	11:40~12:25 <b>Session 3</b> <b>Niches for Hematopoietic Stem Cells</b> Chair : Fumio Arai	
12:00	12:25~13:45 <b>Lunch Time</b>	<b>Poster Session</b>
13:00	13:45~14:45 <b>Session 4</b> <b>iPS / ES Cells</b> Chair : Kinichi Nakashima	
14:00	14:45~15:45 <b>Special Session on iPS / ES Cells</b> Chair : Takafumi Kimura	
15:00	15:45~16:00 <b>Coffee Break</b>	
16:00	16:00~16:35 <b>Keynote Lecture (1)</b> <b>Kristen Kroll</b> Chair : Shin'ichiro Yasunaga	
	16:35~17:10 <b>Keynote Lecture (2)</b> <b>R. Keith Humphries</b> Chair : Koichi Akashi	
17:00	17:10~17:45 <b>Keynote Lecture (3)</b> <b>Michele Pagano</b> Chair : Toshio Suda	
	17:45~17:55 <b>General Meeting</b>	
18:00	17:55~ <b>Reception</b> (Venue for Poster Presentation)	
19:00		

## The Second Day : Saturday, May 31

	Oral Presentation	Poster Discussion
9:00	9:00~9:45 <b>Session 5</b> <b>Stem Cell and Cancer Metabolites</b> Chair : Issay Kitabayashi	
	9:45~10:45 <b>Session 6</b> <b>Leukemia Stem Cells (1)</b> Chair : Mineo Kurokawa	
10:00	10:45~11:00 <b>Coffee Break</b>	
	11:00~12:00 <b>Session 7</b> <b>Leukemia Stem Cells (2)</b> Chair : Hiromi Iwasaki	
11:00	12:00~12:45 <b>Korea-Japan Bilateral Session</b> Chair : Shigeru Chiba	
12:00	12:45~13:30 <b>Lunch Time</b>	<b>Poster Session</b>
13:00	13:30~14:15 <b>Session 8</b> <b>Cancer Stem Cells (1)</b> Chair : Tetsuya Taga	
14:00	14:15~15:00 <b>Session 9</b> <b>Cancer Stem Cells (2)</b> Chair : Noriko Gotoh	
15:00	15:00~15:15 <b>Coffee Break</b>	
	15:15~16:00 <b>Session 10</b> <b>Tissue Stem Cells (1)</b> Chair : Atsushi Suzuki	
16:00	16:00~16:45 <b>Session 11</b> <b>Tissue Stem Cells (2)</b> Chair : Daisuke Sugiyama	
	16:45~17:00 <b>Closing Remarks</b>	
17:00		
18:00		
19:00		

# The 12<sup>th</sup> Stem Cell Research Symposium Program

Friday, May 30. The First Day

**Registration · Exhibit posters** 8 : 30~

**Opening Remarks Organizer Yoshihiro Takihara** 9 : 00~9 : 10  
(Department of Stem Cell Biology, Research Institute for Radiation Biology and Medicine, Hiroshima University)

**Session 1 : Hematopoietic Stem Cells (1)** 9 : 10~10 : 25

**Chair Atsushi Iwama**  
(Department of Cellular and Molecular Medicine, Graduate School of Medicine, Chiba University)

- O-1 WDR68 is critical for maintenance of long-term hematopoietic stem cells  
Miu Adachi  
(Division of Hematological Malignancy, National Cancer Center Research Institute)
- O-2 Pot1 regulates hematopoietic stem cell activity during aging  
Kentaro Hosokawa<sup>1</sup>, Yoshiko Ikushima<sup>2</sup>, Benjamin MacArthur<sup>3</sup>,  
Toshio Suda<sup>2</sup>, Fumio Arai<sup>1</sup>  
(<sup>1</sup>Department of Stem Cell Biology and Medicine, Graduate School of Medical Sciences, Kyushu University, <sup>2</sup>Department of Cell Differentiation, School of Medicine, Keio University, <sup>3</sup>Faculty of Medicine & School of Mathematics, University of Southampton)
- O-3 Clock gene *Bmal1* is dispensable for intrinsic properties of murine HSCs  
Aki Ieyasu, Satoshi Yamazaki, Hiromitsu Nakauchi  
(Laboratory of Stem Cell Therapy, Center for Experimental Medicine, the Institute of Medical Science, the University of Tokyo)
- O-4 The role of Prdm16 in hematopoietic stem cell function  
Kenjiro Kamezaki<sup>1</sup>, Koichi Akashi<sup>1</sup>, Hans Snoeck<sup>2</sup>  
(<sup>1</sup>Department of Medicine and Biosystemic Science, Kyushu University Graduate School of Medical Sciences, <sup>2</sup>Columbia Center for Translational Immunology, Columbia University Medical Center)
- O-5 Identification and functional analysis of self-renewing hematopoietic stem cells by using Geminin-EYFP knock-in mice  
Shin'ichiro Yasunaga<sup>1</sup>, Yoshinori Ohno<sup>1</sup>, Kyoko Suzuki-Takedachi<sup>1</sup>,  
Toshiki Kurogi<sup>1</sup>, Mimoko Santo<sup>1</sup>, Motoaki Ohtsubo<sup>1,2</sup>,  
Yoshihiro Takihara<sup>1</sup>  
(<sup>1</sup>Department of Stem Cell Biology, Research Institute for Radiation Biology and Medicine, Hiroshima University, <sup>2</sup>Department of Food and Fermentation Science, Beppu University)

**Session 2 : Hematopoietic Stem Cells (2)**

**10 : 25~11 : 25**

**Chair Yoshiaki Sonoda**

(Department of Stem Cell Biology and Regenerative Medicine, Graduate School of Medical Science, Kansai Medical University)

- O-6 Cord blood-derived CD34-negative hematopoietic stem cells (HSCs) are myeloid-biased HSCs residing at the apex of the human HSC hierarchy  
Yoshikazu Matsuoka<sup>1</sup>, Keisuke Sumide<sup>1</sup>, Masaya Takahashi<sup>2</sup>, Ryusuke Nakatsuka<sup>1</sup>, Tatsuya Fujioka<sup>1</sup>, Yutaka Sasaki<sup>1</sup>, Yoshiaki Sonoda<sup>1</sup>  
(<sup>1</sup>Department of Stem Cell Biology and Regenerative Medicine, Graduate School of Medical Science, Kansai Medical University, <sup>2</sup>Department of Pediatrics, Kansai Medical University)
- O-7 CD133 is a positive marker of human cord blood-derived CD34-negative hematopoietic stem cells  
Masaya Takahashi<sup>1</sup>, Yoshikazu Matsuoka<sup>2</sup>, Keisuke Sumide<sup>2</sup>, Ryusuke Nakatsuka<sup>2</sup>, Tatsuya Fujioka<sup>2</sup>, Yutaka Sasaki<sup>2</sup>, Kazunari Kaneko<sup>1</sup>, Yoshiaki Sonoda<sup>2</sup>  
(<sup>1</sup>Department of Pediatrics, Kansai Medical University, <sup>2</sup>Department of Stem Cell Biology and Regenerative Medicine, Kansai Medical University)
- O-8 Embryonic hematopoietic progenitors migrate through muscle before homing to bone marrow  
Yuka Tanaka<sup>1,2</sup>, Tomoko Inoue<sup>3</sup>, Kasem Kulkeaw<sup>3</sup>, Yanagi Chiyo<sup>1</sup>, Senji Shirasawa<sup>2</sup>, Yoichi Nakanishi<sup>1</sup>, Daisuke Sugiyama<sup>3</sup>  
(<sup>1</sup>Center for Clinical and Translational Research, Kyushu University Hospital, <sup>2</sup>Department of Cell Biology, Faculty of Medicine, Fukuoka University, <sup>3</sup>Department of Research and Development of Next Generation Medicine, Kyushu University Faculty of Medical Sciences)
- O-9 Inhibitory effect of Spred1 on self-renewal activity mediated by cell-cell interaction determines size of hematopoietic stem cell pool  
Yuko Tadokoro<sup>1</sup>, Takayuki Hoshii<sup>1</sup>, Kazuhito Naka<sup>2</sup>, Koji Eto<sup>3</sup>, Hideo Ema<sup>4</sup>, Satoshi Yamazaki<sup>5</sup>, Akihiko Yoshimura<sup>6</sup>, Hiromitsu Akauchi<sup>5</sup>, Atsushi Hirao<sup>1</sup>  
(<sup>1</sup>Division of Molecular Genetics, Cancer Research Institute, Kanazawa University, <sup>2</sup>Exploratory Project on Cancer Stem Cells, Cancer Research Institute, Kanazawa University, <sup>3</sup>Department of Clinical Application, Center for iPS Cell Research and Application (CiRA), Kyoto University, <sup>4</sup>Department of Cell Differentiation, School of Medicine, Keio University, <sup>5</sup>Division of Stem Cell Therapy, Center for Stem Cell Biology and Regenerative Medicine, The Institute of Medical Science, The University of Tokyo, <sup>6</sup>Department of Microbiology and Immunology, Keio University School of Medicine)

**Coffee Break**

**11 : 25~11 : 40**

**Session 3 : Niches for Hematopoietic Stem Cells**

**11 : 40~12 : 25**

**Chair Fumio Arai**

(Department of Stem Cell Biology and Medicine, Graduate School of Medical Sciences, Kyushu University)

- O-10 NG2<sup>+</sup> arteriolar pericytes form niches for dormant hematopoietic stem cells  
Yuya Kunisaki<sup>1,2</sup>, Dachuan Zhang<sup>2</sup>, Toshihide Mizoguchi<sup>2</sup>,  
Aviv Bergman<sup>3</sup>, Paul Frenette<sup>2</sup>  
(<sup>1</sup>Kyushu University Department of Medicine and Biosystemic Science, <sup>2</sup>Ruth L. and David S. Gottesman Institute for Stem Cell and Regenerative Medicine Research Albert Einstein College of Medicine, <sup>3</sup>Department of Systems and Computational Biology, Albert Einstein College of Medicine)
- O-11 Role of Oncostatin M in the bone marrow microenvironment for hematopoiesis  
Fumi Sato<sup>1</sup>, Minoru Tanaka<sup>2</sup>, Atsushi Miyajima<sup>1</sup>  
(<sup>1</sup>Laboratory of Cell Growth and Differentiation, Institute of Molecular and Cellular Biosciences, The University of Tokyo, <sup>2</sup>Laboratory of Stem Cell Regulation, Institute of Molecular and Cellular Biosciences, The University of Tokyo)
- O-12 The niche factor Angiopoietin-1 regulates stem and progenitor cell numbers by controlling hematopoietic stem cell division asymmetry  
Yoshiko Ikushima<sup>1</sup>, Ben D. MacArthur<sup>2</sup>, Patrick S. Stumpf<sup>2</sup>,  
Kentaro Hosokawa<sup>1,3</sup>, Toshio Suda<sup>1</sup>, Fumio Arai<sup>1,3</sup>  
(<sup>1</sup>Department of Cell Differentiation, School of Medicine, Keio University, <sup>2</sup>Centre for Human Development, Stem Cells and Regeneration, Institute of Developmental Sciences, School of Mathematics, and Institute for Life Sciences, University of Southampton, <sup>3</sup>Department of Stem Cell Biology and Medicine, Graduate School of Medical Sciences, Kyushu University)

**Lunch Time /Poster Session**

**12 : 25~13 : 45**

**Session 4 : iPS/ES Cells**

**13 : 45~14 : 45**

**Chair Kinichi Nakashima**

(Department of Stem Cell Biology and Medicine, Graduate School of Medical Science, Kyushu University)

- O-13 Lactic acid bacteria-derived materials convert human fibroblasts to multipotential cells  
Kunimasa Ohta, Rie Kawano, Naofumi Ito  
(Kumamoto University)
- O-14 Search of machinery for efficient reversion from EpiSC to ESC-like cell  
Hideyuki Murayama  
(The Institute of Medical Science, University of Tokyo)
- O-15 Generation of a mouse model capable of visualizing pluripotent cells in Nanogexpressing cells  
Maiko Terada<sup>1</sup>, Sayaka Sekiya<sup>1</sup>, Atsushi Suzuki<sup>1,2</sup>  
(<sup>1</sup>Division of Organogenesis and Regeneration, Medical Institute of Bioregulation, Kyushu University, <sup>2</sup>Core Research for Evolutional Science and Technology (CREST))

- O-16 iPS cells show hypersensitivity to X-irradiation than isogenic somatic cells, leading to p53-dependent apoptosis

Harunobu Kagawa<sup>1</sup>, Hidehiko Kawai<sup>2</sup>, Tetsushi Sakuma<sup>3</sup>,  
Takashi Yamamoto<sup>3</sup>, Bunshyou Shiotan<sup>1</sup>, Akira Shimamoto<sup>1</sup>,  
Hidetoshi Tahara<sup>1</sup>

(<sup>1</sup>Department of Cellular and Molecular Biology, Graduate School of Biomedical Science, and Health, Hiroshima University, <sup>2</sup>Department of Regulatory Radiobiology, Research Institute for Radiation Biology and Medicine, Hiroshima University, <sup>3</sup>Department of Mathematical and Life Sciences, Graduate School of Science, Hiroshima University)

## Special Session on iPS/ES Cells

14 : 45~15 : 45

### Chair Takafumi Kimura

(Department of Fundamental Cell Technology, Center for iPS Cell Research and Application (CiRA), Kyoto University)

- O-17 Strategies for manufacturing and banking of clinical-grade human embryonic stem cell lines

Tsuneo Takahashi

(The Institute for Frontier Medical Sciences, Kyoto University)

- O-18 Autologous transplantation of iPS cell-derived neurons to the brain of non-human primate

Asuka Morizane<sup>1</sup>, Daisuke Doi<sup>1</sup>, Tetsuhiro Kikuchi<sup>1</sup>,  
Jun Takahashi<sup>1,2,3</sup>

(<sup>1</sup>Department of Clinical Application, Center for iPS Cell Research and Application, Kyoto University, <sup>2</sup>Department of Biological Repair, Institute for Frontier Medical Sciences, Kyoto University, <sup>3</sup>Department of Neurosurgery, Kyoto University Graduate School of Medicine)

- O-19 Regeneration of immune cells for immunotherapy

Shin Kaneko

(Shin Kaneko Laboratory, CiRA, Kyoto University)

## Coffee Break

15 : 45~16 : 00

## Keynote Lecture (1)

16 : 00~16 : 35

### Chair Shin'ichiro Yasunaga

(Department of Stem Cell Biology, Research Institute for Radiation Biology and Medicine, Hiroshima University)

### K-1 Epigenetic regulation of embryonic cell fate selection

Kristen L. Kroll, Ph.D., Elizabeth Caronna,  
Dhananjay Yellajoshyula, Ethan S. Patterson, Matthew Elitt,  
Pamela M. Hummert

(Department of Developmental Biology, Washington University School of Medicine, Saint Louis)

**Keynote Lecture (2)**

**16 : 35~17 : 10**

**Chair Koichi Akashi**

(Department of Medicine and Biosystemic Science, Faculty of Medicine, Kyushu University)

**K-2 Targeting self-renewal function of normal and leukemic hematopoietic stem cells**

**R. Keith Humphries, M.D., Ph.D.**

(Terry Fox Lab, BC Cancer Agency, Vancouver)

**Keynote Lecture (3)**

**17 : 10~17 : 45**

**Chair Toshio Suda**

(Department of Cell Differentiation Keio University, School of Medicine)

**K-3 SCF ubiquitin ligase complexes regulate modular elements of molecular machines**

**Michele Pagano, M.D., Ph.D.**

(Howard Hughes Medical Institute and Department of Pathology, NYU Cancer Institute, New York University School of Medicine, New York)

**General Meeting**

**Chief Director Koichi Akashi**

**17 : 45~17 : 55**

(Department of Medicine and Biosystemic Science, Faculty of Medicine, Kyushu University)

**Reception**

(Venue for Poster Presentation)

**17 : 55~**

Saturday, May 31. The Second Day

Session 5 : Stem Cell and Cancer Metabolites

9 : 00~9 : 45

**Chair Issay Kitabayashi**

(Division of Hematological Malignancy National Cancer Center Research Institute)

- O-20 Critical roles of the IDH2 mutation in development and maintenance of acute myeloid leukemia

Yoko Ogawara<sup>1</sup>, Takuo Katsumoto<sup>1</sup>, Yukiko Aikawa<sup>1</sup>, Yutaka Shima<sup>1</sup>, Yuki Kagiya<sup>1</sup>, Tomoyoshi Soga<sup>2</sup>, Hironori Matsunaga<sup>3</sup>, Takahiko Seki<sup>3</sup>, Kazushi Araki<sup>3</sup>, Issay Kitabayashi<sup>1</sup>  
(<sup>1</sup>National Cancer Center Research Institute, <sup>2</sup>Institute for Advanced Biosciences, Keio University, <sup>3</sup>R&D Division, Daiichi Sankyo Co., Ltd)

- O-21 MicroRNA-369 dictates glucose metabolism and cell differentiation of pluripotent stem cells by splicing PKM2

Masamitsu Konno<sup>1</sup>, Nobuhiro Tanuma<sup>2</sup>, Hiroshi Shima<sup>2</sup>, Noriko Gotoh<sup>3</sup>, Yuichiro Doki<sup>4</sup>, Masaki Mori<sup>4</sup>, Hideshi Ishii<sup>1</sup>  
(<sup>1</sup>Department of Frontier Science for Cancer and Chemotherapy, Osaka University Graduate School of Medicine, <sup>2</sup>Division of Cancer Chemotherapy, Miyagi Cancer Center Research Institute, <sup>3</sup>Division of Cancer Cell Biology, Cancer Research Institute of Kanazawa University, <sup>4</sup>Department of Gastrointestinal Surgery, Osaka University Graduate School of Medicine)

- O-22 Methionine metabolism regulates maintenance and differentiation of human pluripotent stem cells

Nobuaki Shiraki<sup>1</sup>, Yasuko Shiraki<sup>2</sup>, Tomonori Tsuyama<sup>1,3</sup>, Fumiaki Obata<sup>4,5</sup>, Masayuki Miura<sup>4,5</sup>, Genta Nagae<sup>6</sup>, Hiroyuki Aburatani<sup>6</sup>, Kazuhiko Kume<sup>1,7</sup>, Fumio Endo<sup>2</sup>, Shoen Kume<sup>1,3</sup>  
(<sup>1</sup>Department of Stem Cell Biology, Institute of Molecular Embryology and Genetics, Kumamoto University, <sup>2</sup>Department of Pediatrics, Graduate School of Medical Sciences, Kumamoto University, <sup>3</sup>Program for Leading Graduate Schools "HIGO", Kumamoto University, <sup>4</sup>Department of Genetics, Graduate School of Pharmaceutical Sciences, The University of Tokyo, <sup>5</sup>CREST, Japan Science and Technology Agency, <sup>6</sup>Genome Science Division, Research Center for Advanced Science and Technology, The University of Tokyo, <sup>7</sup>Department of Neuropharmacology, Graduate School of Pharmaceutical Sciences, Nagoya City University)

Session 6 : Leukemia Stem Cells (1)

9 : 45~10 : 45

**Chair Mineo Kurokawa**

(Department of Hematology and Oncology, Graduate School of Medicine, The University of Tokyo)

- O-23 Treatment with Hedgehog inhibitor, PF-913, attenuates leukemia-initiation potential in AML cells

Yosuke Minami<sup>1</sup>, Nobuaki Fukushima<sup>2</sup>, Tomoki Naoe<sup>3</sup>  
(<sup>1</sup>Kobe University Hospital, <sup>2</sup>Nagoya University School of Medicine, <sup>3</sup>National Hospital Organization Nagoya Medical Center)

- O-24 BAALC promotes leukemogenesis by balancing MEK/ERK-dependent proliferation with KLF4-derived differentiation block

Ken Morita<sup>1</sup>, Yosuke Masamoto<sup>1</sup>, Yuki Kagoya<sup>1</sup>, Keisuke Kataoka<sup>1</sup>, Junji Koya<sup>1</sup>, Hideki Yashiroda<sup>2</sup>, Tomohiko Sato<sup>1</sup>, Shigeo Murata<sup>2</sup>, Mineo Kurokawa<sup>1</sup>

(<sup>1</sup>Department of Hematology & Oncology, Graduate School of Medicine, the University of Tokyo, <sup>2</sup>Laboratory of Protein Metabolism, Graduate School of Pharmaceutical Sciences, the University of Tokyo)

- O-25 Physiologic hypoxia promotes maintenance of CML stem cells despite effective BCRABL1 inhibition

King Pan Ng<sup>1,8</sup>, Aditi Manjeri<sup>1</sup>, Kian Leong Lee<sup>2</sup>, Weijie Huang<sup>1</sup>, Soo Yong Tan<sup>3</sup>, Charles T H Chuah<sup>1,4</sup>, Lorenz Poellinger<sup>2,6</sup>, S Tiong Ong<sup>1,4,5,7</sup>

(<sup>1</sup>Cancer and Stem Cell Biology Signature Research Program, Duke-NUS Graduate Medical School, Singapore, <sup>2</sup>Cancer Science Institute of Singapore, National University of Singapore, <sup>3</sup>Department of Pathology, Singapore General Hospital, <sup>4</sup>Department of Haematology, Singapore General Hospital, <sup>5</sup>Department of Medical Oncology, National Cancer Centre, Singapore, <sup>6</sup>Department of Cell and Molecular Biology, Karolinska Institutet, Sweden, <sup>7</sup>Department of Medicine, Duke University Medical Center, Durham, NC., <sup>8</sup>Present address: Cancer Science Institute of Singapore, National University of Singapore)

- O-26 Disruption of quiescence by p57 ablation confers oncogene addiction on leukemia stem cells through altered microenvironmental regulation

Shoichiro Takeishi, Akinobu Matsumoto, Keiichi I. Nakayama  
(Department of Molecular and Cellular Biology, Medical Institute of Bioregulation, Kyushu University)

**Coffee Break**

**10 : 45~11 : 00**

**Session 7 : Leukemia Stem Cells (2)**

**11 : 00~12 : 00**

**Chair Hiromi Iwasaki**

(Center for Cellular and Molecular Medicine, Kyushu University Hospital)

- O-27 Leukemia-associated mutations of DNMT3A inhibit differentiation of hematopoietic stem and leukemic cells via aberrant recruitment of Bmi1

Junji Koya, Keisuke Kataoka, Takako Kishino-Tsuruta, Tomohiko Sato, Mineo Kurokawa

(Department of Hematology & Oncology, Graduate School of Medicine, The University of Tokyo)

- O-28 Dominant negative EZH2 promotes myeloid tumorigenesis in mouse BMT model

Kimihito C Kawabata, Daichi Inoue, Jiro Kitaura, Toshio Kitamura  
(Institute of Medical Science, the University of Tokyo)

- O-29 Loss of p53 induces leukemic transformation in a murine model of JAK2 V617F-induced polycythemia vera

Takako Tsuruta-Kishino, Keisuke Kataoka, Junji Koya, Hiroshi Kobayashi, Kensuke Narukawa, Tomohiko Sato, Mineo Kurokawa

(Department of Hematology & Oncology, Graduate School of Medicine, The University of Tokyo)

- O-30 TIM-3, a leukemia stem cell marker, plays a role in leukemic transformation through autocrine stimulatory signaling by its ligand, galectin-9  
Yoshikane Kikushige, Junichiro Yuda, Takahiro Shima, Toshihiro Miyamoto, Koichi Akashi  
(Department of Medicine and Biosystemic Sciences, Kyushu University Graduate School of Medicine)

**Korea-Japan Bilateral Session**

**12 : 00~12 : 45**

**Chair Shigeru Chiba**

(Department of Hematology, Faculty of Medicine, University of Tsukuba)

**KJ-1 Functional regulation of stem cells and embryos by cell-penetrating peptide (CPP)-conjugated recombinant proteins**

Dong Ryul Lee, Soomin Hong, Ning Jie Yang, Junghyun Jo  
(Department of Biomedical Science, CHA University, Seoul, Korea)

**KJ-2 Molecular integration of hoxB4 and STAT3 for self-renewal of hematopoietic stem cells: a model of molecular convergence for stemness**

Il-Hoan Oh, MD, Ph.D

(Department of Medical Lifescience, Catholic University of Korea, Seoul)

**KJ-3 Studies for applying human ES/iPS cell cultures to therapeutic development of Parkinson's disease**

Sang-Hun Lee, M.D., Ph.D.

(Department of Biochemistry and Molecular Biology, College of Medicine, Hanyang University, Seoul)

**Lunch Time /Poster Session**

**12 : 45~13 : 30**

**Session 8 : Cancer Stem Cells (1)**

**13 : 30~14 : 15**

**Chair Tetsuya Taga**

(Department of Stem Cell Regulation, Medical Research Institute, Tokyo Medical and Dental University (TMDU))

- O-31 Discrimination of mutations arising in pre-malignant cells and those in lymphoma cells in angioimmunoblastic t-cell lymphoma

Mamiko Sakata-Yanagimoto, Shigeru Chiba  
(Department of Hematology, University of Tsukuba)

- O-32 All-trans retinoic acid enhances cytotoxic effect of T cells with an anti-CD38 chimeric antigen receptor in acute myeloid leukemia

Keichiro Mihara<sup>1</sup>, Tetsumi Yoshida<sup>1</sup>, Tatsuji Mino<sup>1</sup>, Yoshihiro Takihara<sup>2</sup>, Tatsuo Ichinohe<sup>1</sup>

(<sup>1</sup>Department of Hematology/Oncology, Research Institute for Radiation Biology and Medicine, Hiroshima University, <sup>2</sup>Department of Stem Cell Biology, Research Institute for Radiation Biology and Medicine, Hiroshima University)

- O-33 Hypoxia-induced noncoding ultraconserved transcripts in cancer  
Naohiro Nishida<sup>1</sup>, Jana Ferdin<sup>2</sup>, Mircea Ivan<sup>3</sup>, George Calin<sup>4</sup>,  
Masaki Mori<sup>5</sup>, Hideshi Ishii<sup>1</sup>  
(<sup>1</sup>Department of Frontier Science for Cancer and Chemotherapy,  
Osaka University Graduate School of Medicine, <sup>2</sup>Department of  
Animal Science, Biotechnical Faculty, University of Ljubljana,  
<sup>3</sup>Department of Medicine, Indiana University School of Medicine,  
<sup>4</sup>Department of Experimental Therapeutics, MD Anderson Cancer  
Center, <sup>5</sup>Department of Gastroenterological Surgery, Osaka  
University Graduate School of Medicine)

**Session 9 : Cancer Stem Cells (2)**

**14 : 15~15 : 00**

**Chair Noriko Gotoh**

(Division of Cancer Cell Biology Cancer Research Institute, Kanazawa  
University)

- O-34 Activation of the canonical Wnt signaling pathway and enhancement of the  
tumorigenicity of breast cancer stem cells by microRNA-142  
Yohei Shimono<sup>1</sup>, Taichi Isobe<sup>2</sup>, Shigeo Hisamori<sup>3</sup>, Michael Clarke<sup>4</sup>  
(<sup>1</sup>Kobe University, Graduate School of Medicine, <sup>2</sup>Institute for Stem  
Cell Biology and Regenerative Medicine, Stanford University, <sup>3</sup>Kyoto  
University, Graduate School of Medicine, <sup>4</sup>Institute for Stem Cell  
Biology and Regenerative Medicine, Stanford University)
- O-35 Plasticity of CD44<sup>+</sup> colorectal cancer stem cells depends on TGF-beta-induced  
epithelial mesenchymal transition (EMT): evidences from an *ex vivo* culture  
system  
Michitaka Nakano<sup>1</sup>, Hiroshi Ariyama<sup>1</sup>, Yuta Okumura<sup>1</sup>,  
Shingo Tamura<sup>1</sup>, Kohta Miyawaki<sup>1</sup>, Taichi Isobe<sup>1</sup>, Hitoshi Kusaba<sup>1</sup>,  
Takashi Ueki<sup>2</sup>, Eishi Baba<sup>1</sup>, Koichi Akashi<sup>1</sup>  
(<sup>1</sup>Department of Medicine and Biosystemic Science, Kyushu  
University Graduate School of Medical Sciences, <sup>2</sup>Departement of  
Surgery and Oncology, Kyushu University Graduate School of Medical  
Science)
- O-36 Understanding of C6 glioma cancer stem cell niche with the use of synthetic  
polymers  
Tetsuya Taga, Kouichi Tabu  
(Department of Stem Cell Regulation, Medical Research Institute,  
Tokyo Medical and Dental University (TMDU))

**Coffee Break**

**15 : 00~15 : 15**

**Session 10 : Tissue Stem Cells (1)**

**15 : 15~16 : 00**

**Chair Atsushi Suzuki**

(Division of Organogenesis and Regeneration, Medical Institute of  
Bioregulation, Kyushu University)

- O-37 FBXL12 targets ALDHs for degradation in trophoblast stem cells to induce  
Differentiation  
Keiichi I. Nakayama  
(Department of Molecular and Cellular Biology, Medical Institute of  
Bioregulation, Kyushu University)

- O-38 The Lin28/let-7 axis regulates proliferation of hepatoblasts  
Yasuo Takashima<sup>1</sup>, Maiko Terada<sup>1</sup>, Atsushi Suzuki<sup>1,2</sup>  
(<sup>1</sup>Division of Organogenesis and Regeneration, Medical Institute of Bioregulation, Kyushu University, <sup>2</sup>Core Research for Evolutional Science and Technology (CREST), Japan Science and Technology Agency)
- O-39 Establishment of the gene transduction into the primary intestinal organoid identified the subpopulation of the stem cells in a crypt  
Nobukatsu Horita<sup>1</sup>, Kiichiro Tsuchiya<sup>2</sup>, Ryohei Hayashi<sup>1</sup>, Keita Fukushima<sup>1</sup>, Shuji Hibiya<sup>1</sup>, Masayoshi Fukuda<sup>1</sup>, Yoshihito Kano<sup>1</sup>, Tomohiro Mizutani<sup>1</sup>, Yasuhiro Nemoto<sup>1</sup>, Shiro Yui<sup>1</sup>, Ryuichi Okamoto<sup>2</sup>, Tetsuya Nakamura<sup>2</sup>, Mamoru Watanabe<sup>1</sup>  
(<sup>1</sup>Department of Gastroenterology and Hepatology, Graduate School, Tokyo Medical and Dental University, <sup>2</sup>Department of Advanced Therapeutics for Gastrointestinal Diseases, Tokyo Medical and Dental University)

**Session 11 : Tissue Stem Cells (2)**

**16 : 00~16 : 45**

**Chair Daisuke Sugiyama**

(Department of Research and Development of Next Generation Medicine, Faculty of Medical Sciences, Kyushu University)

- O-40 Cell motion predicts epidermal stemness  
Daisuke Nanba<sup>1</sup>, Fujio Toki<sup>1</sup>, Sota Tate<sup>2</sup>, Matome Imai<sup>2</sup>, Natsuki Matsushita<sup>3</sup>, Hiroshi Toki<sup>4</sup>, Shigeki Higashiyama<sup>1</sup>, Yann Barrandon<sup>5</sup>  
(<sup>1</sup>Proteo-Science Center, Ehime University, <sup>2</sup>Graduate School of Medicine, Ehime University, <sup>3</sup>Translational Research Center, Ehime University Hospital, <sup>4</sup>Research Center for Nuclear Physics, Osaka University, <sup>5</sup>Laboratory of Stem Cell Dynamics, Ecole Polytechnique Federale de Lausanne)
- O-41 Defective maintenance of COL17A1 in hair follicle stem cells orchestrates hair follicle aging  
Hiroyuki Matsumura, Yasuaki Mohri, Nguyen Thanh Binh, Hironobu Morinaga, Emi Nishimura  
(Department of Stem Cell Medicine, Medical Research Institute Tokyo Medical and Dental University)
- O-42 Regulation of MKL1 via actin cytoskeleton dynamics drives adipocyte differentiation  
Hiroyuki Nobusue<sup>1,2</sup>, Nobuyuki Onishi<sup>1</sup>, Takatsune Shimizu<sup>3</sup>, Eiji Sugihara<sup>1</sup>, Yoshinao Oki<sup>2</sup>, Yuko Sumikawa<sup>2</sup>, Tatsuyuki Chiyoda<sup>1</sup>, Koichi Akashi<sup>4</sup>, Koichiro Kano<sup>2</sup>, Hideyuki Saya<sup>1</sup>  
(<sup>1</sup>Division of Gene Regulation, Institute for Advanced Medical Research, Keio University School of Medicine, <sup>2</sup>Laboratory of Cell and Tissue Biology, College of Bioresource Sciences, Nihon University, <sup>3</sup>Department of Pathophysiology, School of Pharmacy and Pharmaceutical Sciences, Hoshi University, <sup>4</sup>Department of Medicine and Biosystemic Science, Kyushu University Graduate School of Medical Science)

**Closing Remarks**

**16 : 45~17 : 00**

**Next Organizer Issay Kitabayashi**

(Division of Hematological Malignancy National Cancer Center Research Institute)

## Poster Session

### Session 1: Hematopoietic Stem Cells

- P-1 Ezh2 is required for the maintenance of developmental stage-specific functions of hematopoietic stem cells  
Motohiko Oshima<sup>1</sup>, Satoru Miyagi<sup>1</sup>, Shuhei Koide<sup>1</sup>, George Russel Wendt<sup>1</sup>, Yutaka Suzuki<sup>2</sup>, Atsushi Iwama<sup>1</sup>  
(<sup>1</sup>Department of Cellular and Molecular Medicine, Graduate School of Medicine, Chiba University, <sup>2</sup>Laboratory of Functional Genomics, Department of Medical Genome Sciences, Graduate School of Frontier Sciences, University of Tokyo)
- P-2 Stem cell factor enhances generation of hematopoietic progenitors from human pluripotent stem cells  
Seok-Ho Hong<sup>1,3</sup>, Borim An<sup>1,3</sup>, Se-Ran Yang<sup>2,3</sup>  
(<sup>1</sup>Department of Internal Medicine, School of Medicine, Kangwon National University, Chuncheon, <sup>2</sup>Department of Thoracic and Cardiovascular Surgery, School of Medicine, Kangwon National University, Chuncheon, <sup>3</sup>Stem Cell Institute, Kangwon National University, Chuncheon, Korea)
- P-3 FGF7 supports hematopoietic stem/progenitor cells and niche-dependent myeloblastoma cells via autocrine action on bone marrow stromal cells  
Satowa Tanaka<sup>1</sup>, Ruri Ishino<sup>1</sup>, Azusa Imanishi<sup>1</sup>, Masaya Yano<sup>1</sup>, Keiji Matsui<sup>1</sup>, Kaori Minami<sup>1</sup>, Mami Nagai<sup>2</sup>, Natsumi Hasegawa<sup>1</sup>, Shigetaka Asano<sup>3</sup>, Mitsuhiro Ito<sup>4</sup>  
(<sup>1</sup>Kobe University Graduate School of Health Sciences, <sup>2</sup>Waseda University, <sup>3</sup>Waseda University, Kobe University Graduate School of Medicine, <sup>4</sup>Kobe University Graduate School of Health Sciences/Medicine, Rockefeller University)
- P-4 Prospective isolation of human erythroid lineage-committed progenitors  
Yasuo Mori<sup>1,2</sup>, Jun Seita<sup>2</sup>, James Chen<sup>2</sup>, John Pluvinage<sup>2</sup>, Koichi Akashi<sup>1</sup>, Irving Weissman<sup>2</sup>  
(<sup>1</sup>Department of Medicine and Biosystemic Science, Graduate School of Medical Sciences, Kyushu University, <sup>2</sup>Institute for Stem Cell Biology and Regenerative Medicine, Stanford University, CA, USA)
- P-5 Geminin regulates transcription via chromatin remodeling to govern cellular proliferation and differentiation  
Yoshinori Ohno<sup>1</sup>, Shin'ichiro Yasunaga<sup>1</sup>, Toshiaki Kurogi<sup>1</sup>, Kyoko Suzuki-Takedachi<sup>1</sup>, Mimoko Santo<sup>1</sup>, Motoaki Ohtsubo<sup>2</sup>, Yoshihiro Takihara<sup>1</sup>  
(<sup>1</sup>Department of Stem Cell Biology, Research Institute for Radiation Biology and Medicine, Hiroshima University, <sup>2</sup>Department of Food and Fermentation Science, Beppu University)
- P-6 A novel approach for identification of hematopoietic stem cell population by nucleostemin promoter activity  
Mohamed A.E. Ali, Takayuki Hoshii, Yuko Tadokoro, Masaya Ueno, Kazuhito Naka, Atsushi Hirao  
(Division of Molecular Genetics, Cancer Research Institute, Kanazawa University)

- P-7 EED, a non-catalytic subunit of PRC2, plays an essential role in maintenance of adult hematopoietic stem cells  
Kenichiro Ikeda, Takeshi Ueda, Hiroaki Honda  
(Department of Disease Model, Research Institute for Radiation Biology and Medicine, Hiroshima University)
- P-8 Establishment and genetic analysis of bone marrow mesenchymal cell clones supporting proliferation of CD34<sup>+</sup> umbilical cord blood cells  
Tetsumi Yoshida<sup>1</sup>, Keichiro Mihara<sup>1</sup>, Tatsuji Mino<sup>1</sup>, Dario Campana<sup>2</sup>, Yoshihiro Takihara<sup>3</sup>, Tatsuo Ichinohe<sup>1</sup>  
(<sup>1</sup>Department of Hematology/Oncology, Research Institute for Radiation Biology and Medicine, Hiroshima University, <sup>2</sup>Department of Pediatrics, National University of Singapore, <sup>3</sup>Department of Stem Cell Biology, Research Institute for Radiation Biology and Medicine, Hiroshima University)
- P-9 Eset regulates energy metabolism in hematopoietic stem and progenitor cells  
Shuhei Koide<sup>1</sup>, Keiyo Takubo<sup>2</sup>, Motohiko Oshima<sup>1</sup>, Satoru Miyagi<sup>1</sup>, Shogo Yabata<sup>1</sup>, George Wendt<sup>1</sup>, Toshio Suda<sup>2</sup>, Atsushi Iwama<sup>1</sup>  
(<sup>1</sup>Department of Cellular and Molecular Medicine, Graduate School of Medicine, Chiba University, <sup>2</sup>Department of Cell Differentiation, The Sakaguchi Laboratory of Developmental Biology, Keio University School of Medicine)
- P-10 Antibody-free flow cytometric analysis of zebrafish neutrophil by DNA-binding DRAQ5 dye and lectin  
Kasem Kulkeaw<sup>1</sup>, Tomoko Inoue<sup>1</sup>, Kanitta Srinoun<sup>2</sup>, Tohru Ishitani<sup>3</sup>, Yuka Tanaka<sup>1</sup>, Keai Sinn Tan<sup>1</sup>, Takaaki Kanemaru<sup>4</sup>, Daisuke Sugiyama<sup>1</sup>  
(<sup>1</sup>Center for Clinical and Translational Research, Kyushu University Hospital, <sup>2</sup>Faculty of Allied Health Sciences, Prince of Songkla University, Thailand, <sup>3</sup>Division of Cell Regulation Systems, Department of Post-Genome Science Center, Medical Institute of Bioregulation, Kyushu University, <sup>4</sup>Morphology Core Unit, Kyushu University Hospital)
- P-11 Histone acetyltransferase MORF is essential for maintenance of hematopoietic stem cells  
Takuo Katsumoto, Issay Kitabayashi  
(Hematological Malignancy Division, National Cancer Center Research Institute)
- P-12 The herbal drug ninjin'yoeito accelerates myelopoiesis but not erythropoiesis in vitro  
Tomoko Inoue<sup>1</sup>, Kasem Kulkeaw<sup>1</sup>, Kanitta Muennu<sup>1,2,3</sup>, Yuka Tanaka<sup>4,5</sup>, Yoichi Nakanishi<sup>5</sup>, Daisuke Sugiyama<sup>1</sup>  
(<sup>1</sup>Department of Research and Development of Next Generation Medicine, Faculty of Medical Sciences, Kyushu University, <sup>2</sup>Thalassemia Research Center, Institute of Molecular Biosciences, Mahidol University, <sup>3</sup>Faculty of Medical Technology, Prince of Songkla University, <sup>4</sup>Department of Cell Biology, Faculty of Medicine, Fukuoka University, <sup>5</sup>Center for Clinical and Translational Research, Kyushu University Hospital)

- P-13 Three-dimensional analysis of hematopoietic development in the mouse embryonic head  
Kazuhide Iizuka<sup>1</sup>, Tomomasa Yokomizo<sup>1</sup>, Motomi Osato<sup>2</sup>, Tomoiku Takaku<sup>1</sup>, Norio Komatsu<sup>1</sup>  
(<sup>1</sup>Department of Hematology, Juntendo University School of Medicine, <sup>2</sup>Cancer Science Institute of Singapore, National University of Singapore)
- P-14 The pro-phagocytic calreticulin on hematopoietic stem cell in the pathogenesis of JAK2 non-mutated myeloproliferative neoplasms  
Shinya Daitoku, Katsuto Takenaka, Takuji Yamauchi, Ayano Yurino, Fumiaki Jinnouchi, Kohta Miyawaki, Koichi Akashi  
(Department of Medicine and Biosystemic Science, Kyushu University Graduate School of Medical Sciences)
- P-15 Jmjd3, a histone demethylase, is required for the functional integrity of hematopoietic stem cells in mice  
Yuichiro Nakata, Takeshi Ueda, Norimasa Yamasaki, Hiroaki Honda  
(Department of Disease Model, Research Institute for Radiation Biology and Medicine, Hiroshima University)
- P-16 Embryonic spleen niche accelerates erythropoiesis through SCF and IGF-1 secretion  
Keai Sinn Tan<sup>1,2</sup>, Tomoko Inoue-Yokooc<sup>1</sup>, Kasem Kulkeaw<sup>1</sup>, Wai Feng Lim<sup>2</sup>, Sarinthip Preedagasamzin<sup>1</sup>, Yuka Tanaka<sup>3</sup>, Mei I Lai<sup>2</sup>, Daisuke Sugiyama<sup>1,3</sup>  
(<sup>1</sup>Department of Research and Development of Next Generation Medicine, Faculty of Medical Sciences, Kyushu University, <sup>2</sup>Department of Pathology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, <sup>3</sup>Center for Clinical and Translational Research, Kyushu University Hospital)
- P-17 The generation of *Runx1* enhancer, eR1(+24m), driven CreERT2 transgenic mice for hematopoietic stem cells-specific gene targeting, imaging and transgenesis  
Cai Ping Koh, Chelsia Qiuxia Wang, Cherry Ee Lin Ng, Linsen Du, Zakir Hossain, Motomi Osato  
(Cancer Science Institute of Singapore, National University of Singapore)

## Session 2: Leukemia and Cancer Stem Cells

- P-18 Transcription factor Lhx2 inhibits proliferation of T-cell acute lymphoblastic leukemia-derived cells  
Kazuya Miyashita<sup>1,2</sup>, Kenji Kitajima<sup>1</sup>, Takahiko Hara<sup>1,2</sup>  
(<sup>1</sup>Stem Cell Project, Tokyo Metropolitan Institute of Medical Science, <sup>2</sup>Graduate School of Tokyo Medical and Dental University)
- P-19 Autophagy activated by TIM-4-AMPK  $\alpha$  interaction suppresses chemotherapy-induced antitumor immunity  
Muhammad Baghdadi, Masahisa Jinushi  
(Hokkaido University Institute for Genetic Medicine)
- P-20 C6 glioma SP and MP cells have different metabolism on the ALA-PpIX-heme pathway: an implication for self-creating cancer stem cell niche  
Wenqian Wang<sup>1</sup>, Kouichi Tabu<sup>1</sup>, Yuta Sugiyama<sup>2</sup>, Yuichiro Hagiya<sup>2</sup>, Shun-ichiro Ogura<sup>2</sup>, Tetsuya Taga<sup>1</sup>  
(<sup>1</sup>Department of Stem Cell Regulation, Medical Research Institute, Tokyo Medical and Dental University (TMDU), <sup>2</sup>Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology)

- P-21 Heterogeneity within CD204<sup>+</sup> tumor-associated macrophages induced by C6 glioma stem cells

Yasuhiro Kokubu, Kouichi Tabu, Nozomi Muramatsu, Yoshitaka Murota, Ryosuke Kimura, Tetsuya Taga  
(Department of Stem Cell Regulation, Medical Research Institute, Tokyo Medical and Dental University (TMDU))

- P-22 CD74-NRG1 is a potential oncoprotein that promotes cancer stem cell properties

Takahiko Murayama<sup>1,2</sup>, Takashi Nakaoku<sup>3</sup>, Koji Tsuta<sup>4</sup>, Masato Enari<sup>5</sup>, Tatsunori Nishimura<sup>1</sup>, Kana Tominaga<sup>1</sup>, Asuka Nakata<sup>1,6</sup>, Arinobu Tojo<sup>7</sup>, Sumio Sugano<sup>2</sup>, Takashi Kohno<sup>3</sup>, Noriko Gotoh<sup>1,6</sup>  
(<sup>1</sup>Division of Molecular Therapy, Molecular targets laboratory, Institute of Medical Science, University of Tokyo, <sup>2</sup>Laboratory of Functional Genomics, Department of Medical Genome Sciences, Graduate School of Frontier Sciences, University of Tokyo, <sup>3</sup>Division of Genome Biology, National Cancer Center Research Institute, <sup>4</sup>Pathology Division, National Cancer Center Research Institute, <sup>5</sup>Division of Refractory Cancer Research, National Cancer Center Research Institute, <sup>6</sup>Division of Cancer Cell Biology, Cancer Research Institute of Kanazawa University, Kanazawa University, <sup>7</sup>Division of Molecular Therapy, Advanced Clinical Research Center, Institute of Medical Science, University of Tokyo)

- P-23 Insulin-like growth factor regulates breast cancer stem cell properties

Kana Tominaga<sup>1</sup>, Teppei Shimamura<sup>2</sup>, Kunihiko Hinohara<sup>1</sup>, Hiroaki Fukuda<sup>1</sup>, Hajime Kanauchi<sup>3</sup>, Seiichiro Shimizu<sup>4</sup>, Kotoe Nishioka<sup>5</sup>, Ei-ichi Tsuji<sup>5</sup>, Kei-ichiro Tada<sup>5</sup>, Yohei Shimono<sup>6</sup>, Hideshi Ishii<sup>7</sup>, Hideyuki Saya<sup>8</sup>, Masaki Mori<sup>7</sup>, Toshihisa Ogawa<sup>5</sup>, Satoru Miyano<sup>2</sup>, Arinobu Tojo<sup>1</sup>, Noriko Gotoh<sup>1,9</sup>  
(<sup>1</sup>Division of Molecular Therapy, Institute of Medical Science, The University of Tokyo, <sup>2</sup>Laboratory of DNA Information Analysis, Institute of Medical Science, The University of Tokyo, <sup>3</sup>Department of Breast and Endocrine Surgery, Showa General Hospital, <sup>4</sup>Department of Pathology Diagnosis, Showa General Hospital, <sup>5</sup>Department of Breast and Endocrine Surgery, Graduate School of Medicine, The University of Tokyo, <sup>6</sup>Graduate School of Medicine, Kobe University, <sup>7</sup>Department of Gastroenterological Surgery, Graduate School of Medicine, Osaka University, <sup>8</sup>Division of Gene Regulation, Institute for Advanced Medical Research, Graduate School of Medicine, Keio University, <sup>9</sup>Division of Cancer Cell Biology, Cancer Research Institute, Kanazawa University)

- P-24 Novel molecular mechanisms of acquired resistance to gefitinib in lung adenocarcinoma

Asuka Nakata<sup>1</sup>, Ryo Yoshida<sup>2</sup>, Rui Yamaguchi<sup>3</sup>, Mai Yamauchi<sup>3</sup>, Yoshinori Tamada<sup>3</sup>, Andre Fujita<sup>3</sup>, Teppei Shimamura<sup>3</sup>, Seiya Imoto<sup>3</sup>, Tomoyuki Higuchi<sup>2</sup>, Masaharu Nomura<sup>4</sup>, Seiji Yano<sup>5</sup>, Satoru Miyano<sup>3</sup>, Noriko Gotoh<sup>1,3</sup>  
(<sup>1</sup>Division of Cancer Cell Biology, Cancer Research Institute, Kanazawa University, <sup>2</sup>The Institute of Statistical Mathematics, <sup>3</sup>Institute of Medical Science, The University of Tokyo, <sup>4</sup>Tokyo Medical University Hospital, <sup>5</sup>Cancer Research Institute, Kanazawa University)

- P-25 Maintenance of stemness of breast cancer stem-like cells by FRS2beta, a feedback inhibitor for ErbB, during mammary tumorigenesis  
Yukino Machida<sup>1</sup>, Daisuke Iejima<sup>1</sup>, Anna Mizutani<sup>1</sup>, Natsuko Kimura<sup>1</sup>, Reiko Sakamoto<sup>2</sup>, Yusuke Inoue<sup>3</sup>, Nobutaka Kobayashi<sup>4</sup>, Naoki Itano<sup>4</sup>, Arinobu Tojo<sup>1</sup>, Nobuaki Yoshida<sup>2</sup>, Ko-ichi Akashi<sup>5</sup>, Hideyuki Saya<sup>6</sup>, Issay Kitabayashi<sup>7</sup>, Noriko Gotoh<sup>1,8</sup>  
(<sup>1</sup>Division of Molecular Therapy, Institute of Medical Science, University of Tokyo, <sup>2</sup>Division of Developmental Genetics, Institute of Medical Science, University of Tokyo, <sup>3</sup>Department of Diagnostic Radiology, Kitasato University School of Medicine, <sup>4</sup>Medical Department, Shinsyu University, <sup>5</sup>Department of Medicine and Biosystemic Science, Kyusyu University, <sup>6</sup>Division of Gene Regulation, Institute for Advanced Medical Research, School of Medicine, Keio University, <sup>7</sup>Division of Hematological Malignancy, National Cancer Center Research Institute, <sup>8</sup>Division of Cancer Cell Biology, Cancer Research Institute, Kanazawa University)
- P-26 FRS2beta, a feedback inhibitor for EGF receptor/ErbB family, may control malignancy of breast cancer, in association with overexpression of a polycomb protein, Ezh2  
Natsuko Kimura<sup>1</sup>, Yukino Machida<sup>1</sup>, Tatsunori Nishimura<sup>1</sup>, Arinobu Tojo<sup>1</sup>, Noriko Gotoh<sup>1,2</sup>  
(<sup>1</sup>Division of Molecular Therapy, Institute of Medical Science, University of Tokyo, <sup>2</sup>Division of Cancer Cell Biology, Cancer Research Institute, Kanazawa University)
- P-27 Sphingosine-1-phosphate induces cancer stem cell proliferation via a Notch ligandindependent Notch activation  
Naoya Hirata, Shigeru Yamada, Yuko Sekino, Yasunari Kanda (Div. Pharmacol, NIHS)

### Session 3: iPS/ES Cells

- P-28 Induction of primordial germ cell-like cells from mouse embryonic stem cells by ERK signal inhibition  
Mika Odamoto<sup>1</sup>, Tohru Kimura<sup>1,2</sup>, Hiroshi Ohta<sup>3</sup>, Keita Fujikawa<sup>1</sup>, Ayako Isotani<sup>4</sup>, Katsuhiko Hayashi<sup>3,5</sup>, Masaru Okabe<sup>4</sup>, Takashi Shinohara<sup>6</sup>, Mitinori Saitou<sup>3,7</sup>, Tohru Nakano<sup>2,8</sup>  
(<sup>1</sup>Department of Stem Cell Biology, Kitasato University School of Science, <sup>2</sup>Graduate School of Frontier Biosciences, and Department of Pathology, Medical School, Osaka University, <sup>3</sup>Department of Anatomy and Cell Biology, Graduate School of Medicine, Kyoto University, <sup>4</sup>Research Institute for Microbial Diseases, Osaka University, <sup>5</sup>PRESTO, Japan Science and Technology Agency (JST), <sup>6</sup>Department of Molecular Genetics, Graduate School of Medicine, Kyoto University, <sup>7</sup>ERATO, JST, <sup>8</sup>CREST, JST)
- P-29 Analysis of tetraploid embryonic stem cells in mice  
Hiroyuki Imai<sup>1,2</sup>, Kiyoshi Kano<sup>1,2</sup>, Wataru Fujii<sup>3</sup>, Ken Kusakabe<sup>2</sup>, Yasuo Kiso<sup>2</sup>  
(<sup>1</sup>Laboratory of Developmental Biology, Joint Faculty of Veterinary Medicine, Yamaguchi University, <sup>2</sup>Laboratory of Veterinary Anatomy, Joint Faculty of Veterinary Medicine, Yamaguchi University, <sup>3</sup>Laboratory of Applied Genetics, Graduate School of Agricultural and Life Science, University of Tokyo)

- P-30 In vitro embryotoxicity testing based on human iPS cells  
Nobuo Aikawa, Atsushi Kunisato, Katsumi Takaba, Kenji Nagao,  
Kinya Ohgami, Hideaki Kusaka  
(R&D Division, Kyowa Hakko Kirin Co., Ltd.)
- P-31 Promotion of iPS cell induction by Akt signaling activation  
Keita Fujikawa, Tohru Kimura  
(Department of Stem cell Biology, Kitasato University School of  
Science)
- P-32 Sox17-transduction imparts fetal hematopoietic cells with the myeloid-restricted  
differentiation potential  
Maha Anani<sup>1</sup>, Ikuo Nobuhisa<sup>1</sup>, Mitsujiro Osawa<sup>2</sup>, Atsushi Iwama<sup>3</sup>,  
Kaho Harada<sup>1</sup>, Kiyoka Saito<sup>1</sup>, Tetsuya Taga<sup>1</sup>  
(<sup>1</sup>Department of Stem Cell Regulation, Medical Research Institute,  
Tokyo Medical and Dental University (TMDU), <sup>2</sup>Clinical Application  
Department, Center for iPS Cell Research and Application (CiRA),  
Kyoto University, <sup>3</sup>Department of Cellular and Molecular Medicine,  
Graduate School of Medicine, Chiba University)
- P-33 Improved hematopoietic differentiation of common marmoset embryonic stem cells  
Takenobu Nii, Tomotoshi Marumoto, Saori Yamaguchi,  
Hirotaka Kawano, Jiyuan Liao, Kenzaburo Tani  
(Division of Molecular and Clinical Genetics, Medical Institute of  
Bioregulation, Kyushu University)
- P-34 Role of an atypical Polycomb Repressive Complex 1 (PRC1) involving MBLR and  
Mga/Max in repressing meiosis-related genes in mouse ES cells  
Mitsuhiro Endoh, Takaho Endoh, Haruhiko Koseki  
(RIKEN Center for Integrative Medical Sciences)
- P-35 The Nanog/Zfp57 axis regulates anchorage-independent growth  
Hiroshi Koide<sup>1</sup>, Yuhki Tada<sup>1</sup>, Yukari Yamaguchi<sup>2</sup>,  
Hiroyuki Takamura<sup>2</sup>, Tadayuki Akagi<sup>1</sup>, Tetsuo Ohta<sup>2</sup>, Takashi Yokota<sup>1</sup>  
(<sup>1</sup>Department of Stem Cell Biology, Graduate School of Medical  
Sciences, Kanazawa University, <sup>2</sup>Department of Gastroenterological  
Surgery, Graduate School of Medical Sciences, Kanazawa University)
- P-36 Establishment of disease model using induced pluripotent stem cells derived  
Niemann-Pick disease type C  
Makoto Hamasaki<sup>1</sup>, Minami Soga<sup>1</sup>, Kaori Yoneda<sup>2</sup>,  
Kimitoshi Nakamura<sup>2</sup>, Muneaki Matsuo<sup>3</sup>, Tetsumi Irie<sup>4</sup>, Fumio Endo<sup>2</sup>,  
Takumi Era<sup>1</sup>  
(<sup>1</sup>Department of Cell Modulation, Institute of Molecular Embryology  
and Genetics, Kumamoto University, <sup>2</sup>Department of Pediatrics,  
Graduate School of Medical Sciences, Kumamoto University,  
<sup>3</sup>Department of Pediatrics, Saga University, Faculty of Medicine,  
<sup>4</sup>Department of Clinical Chemistry and Informatics, Graduate School  
of Pharmaceutical Sciences, Kumamoto University)
- P-37 Visualization and characterization of Tbx18 positive cells, derived from mouse ES  
cells  
Natsumi Nakazawa, Nobuhito Ikeda, Yasuaki Shirayoshi,  
Ichiro Hisatome  
(Division of Regenerative Medicine and Therapeutics, Institute of  
Regenerative Medicine and Biofunction, Graduate School of Medical  
Sciences, Tottori University)

- P-38 Treatment approach for HPP via genetically modified patient's iPS cells and iPSMSCs

Yasuaki Oda<sup>1</sup>, Mika Tadokoro<sup>2</sup>, Shunsuke Yuba<sup>2</sup>, Hajime Ohgushi<sup>2</sup>, Takeshi Taketani<sup>3</sup>, Takumi Era<sup>1</sup>

(<sup>1</sup>Department of Cell Modulation, Institute of Molecular Embryology and Genetics, Kumamoto University, <sup>2</sup>Tissue Engineering Research Group, Health Research Institute, National Institute of Advanced Industrial Science and Technology, <sup>3</sup>Division of Blood Transfusion, Shimane University Hospital)

#### Session 4: Tissue Stem Cells and others

- P-39 Therapeutic effects of human umbilical cord-derived mesenchymal stem cells in experimental stroke

Jihwan Song<sup>2</sup>, Seung-Hun Oh<sup>1</sup>, Jeong-Eun Roh<sup>2</sup>, Chunggab Choi<sup>2</sup>, Yongwoo Jeong<sup>2</sup>, Nayeon Lee<sup>2</sup>, Da-Jeong Chang<sup>2</sup>, Iksoo Jeon<sup>2</sup>, Hyun Sook Kim<sup>1</sup>, Youngjun Lee<sup>3</sup>, Yong-Soo Choi<sup>3</sup>, Ok-Joon Kim<sup>1</sup>

(<sup>1</sup>Department of Neurology, CHA Bundang Medical Center, CHA University, Gyeonggi-do, Korea, <sup>2</sup>CHA Stem Cell Institute, Department of Biomedical Science, CHA University, Seoul, Korea, <sup>3</sup>Department of Applied Bioscience, CHA University, Seongnam-si, Korea)

- P-40 Evaluation of stem cell characteristics of murine bone-derived small cells

Ryusuke Nakatsuka, Ryuji Iwaki, Yoshikazu Matsuoka, Keisuke Sumide, Tatsuya Fujioka, Yutaka Sasaki, Yoshiaki Sonoda (Department of Stem Cell Biology and Regenerative Medicine, Graduate School of Medical Science, Kansai Medical University)

- P-41 Pluripotent stem cells derived from mouse primordial germ cells by small molecule compounds

Tohru Kimura<sup>1</sup>, Keita Fujikawa<sup>1</sup>, Mika Odamoto<sup>1</sup>, Masahito Ikawa<sup>2</sup>, Kuniya Abe<sup>3</sup>, Toru Nakano<sup>4</sup>

(<sup>1</sup>Department of Stem Cell Biology, Kitasato University School of Science, <sup>2</sup>Research Institute for Microbial Diseases, Osaka University, <sup>3</sup>RIKEN BioResource Center, <sup>4</sup>Graduate School of Frontier Biosciences, Medical School, Osaka University)

- P-42 Transcriptional regulatory networks underlying reprogramming of spermatogonial stem cells to pluripotent states

Kye-Seong Kim<sup>1</sup>, Jinhyuk Bhin<sup>2</sup>, Hyung Joon Kim<sup>3</sup>, Hoe Su Jeong<sup>1</sup>, Dong Ryul Lee<sup>3</sup>, Daehee Hwang<sup>2,4,5</sup>

(<sup>1</sup>Hanyang University Graduate School of Biomedical Science and Engineering, Seoul, Korea, <sup>2</sup>Department of Chemical Engineering, POSTECH, Pohang, Korea, <sup>3</sup>Fertility Center of CHA Gangnam Medical Center, College of Medicine, CHA University, Seoul, Korea, <sup>4</sup>School of Interdisciplinary Bioscience and Bioengineering, POSTECH, Pohang, Korea, <sup>5</sup>Division of Integrative Biosciences and Biotechnology, POSTECH, Pohang, Korea)

- P-43 TLR9 signaling in microglia suppresses seizure-induced aberrant neurogenesis in the adult hippocampus  
Taito Matsuda<sup>1</sup>, Naoya Murao<sup>1,2</sup>, Yuki Katano<sup>1,2</sup>, Berry Juliandi<sup>1,3</sup>, Shizuo Akira<sup>4,5</sup>, Taro Kawai<sup>6</sup>, Kinichi Nakashima<sup>1</sup>  
(<sup>1</sup>Department of Stem Cell Biology and Medicine, Graduate School of Medical Sciences, Kyushu University, <sup>2</sup>Laboratory of Gene Regulation Research, Graduate School of Biological Sciences, Nara Institute of Science and Technology (NAIST), <sup>3</sup>Department of Biology, Bogor Agricultural University, Bogor, Indonesia., <sup>4</sup>Laboratory of Host Defense, World Premier International Immunology Frontier Research Center, Osaka University, <sup>5</sup>Department of Host Defense, Research Institute for Microbial Diseases, Osaka University, <sup>6</sup>Laboratory of Molecular Immunobiology, Graduate School of Biological Sciences, NAIST.)
- P-44 Analysis of mechanisms underlying neurogenesis in the adult hippocampus regulated by hemimethylated DNA recognition factor, Np95/Uhrf1  
Naoya Murao<sup>1,2</sup>, Taito Matsuda<sup>1</sup>, Haruhiko Koseki<sup>3</sup>, Masakazu Namihira<sup>4</sup>, Kinichi Nakashima<sup>1</sup>  
(<sup>1</sup>Stem cell Biology and Medicine, Department of Stem cell Biology and Medicine, Graduate School of Medical Sciences, Kyushu University, <sup>2</sup>Laboratory of Gene Expression Research, Graduate School of Biological Science, NAIST, <sup>3</sup>Developmental Genetics, Riken Research Center for Allergy and Immunology, <sup>4</sup>Neuroscience Research Institute, AIST)
- P-45 Development of a new method for the simultaneous integration of multiple vectors into human/mouse artificial chromosome  
Teruhiko Suzuki<sup>1</sup>, Manami Kawaguchi<sup>1</sup>, Mitsuo Oshimura<sup>2,3</sup>, Takahiko Hara<sup>1</sup>  
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- P-46 The investigation on possibility of existence of endothelial stem-like cell population in kidney  
Keitaro Yamane  
(Department of signal Transduction, Research Institute for Microbial Diseases, Osaka University)
- P-47 Functional analysis of MeCP2, the Rett syndrome responsible factor, in neural stem cells  
Hideyuki Nakashima, Keita Tsujimura, Koichiro Irie, Kinichi Nakashima  
(Stem Cell Biology and Medicine, Department of Stem cell Biology and Medicine, Graduate School of Medical Sciences, Kyushu University)
- P-48 Dual roles of cyclin D1 in self-renewal of neural stem cells: promotion of cell proliferation and inhibition of glial differentiation  
Norihisa Bizen<sup>1</sup>, Toshihiro Inoue<sup>2</sup>, Takeshi Shimizu<sup>3</sup>, Koichi Tabu<sup>1</sup>, Tetsushi Kagawa<sup>1</sup>, Tetsuya Taga<sup>1</sup>  
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