Program for Workshop

As for Oral presentation time, please refer to "Scientific Program" on Anual Meeting's Website.

December 10

WS-1 Innate lymphocytes-1: Innate lymphoid cells (NK, ILC1, ILC2, ILC3) 13:40 ~ 15:00 Room B

Chairpersons: Kouetsu Ogasawara, Takashi Ebihara

Innate lymphoid cells (ILCs) are the immune cell populations which lack recombined antigen-specific receptors and contribute to early immune responses, maintenance of membrane integrity, and secondary lymphoid tissue organogenesis. While ILCs with helper functions consist of ILC1s, ILC2s, and ILC3s including Lti cells, conventional NK cells are designated as a Group 1 ILC population with strong cytotoxicity. Recent studies suggest critical roles of ILCs in the many disease models. However, it is not still clear how ILCs interplay with other cells and stay active in the tissues. In this session, we will mainly discuss the new findings especially on reciprocal communication of ILCs with other immune cells, and regulatory mechanism by which ILCs maintain their activity or homeostasis in the tissues.

1-B-WS1-1-O/P

GITR signaling regulates intestinal inflammation by suppressing NK cells function in DSS-induced colitis model

Tsuyoshi Sakurai[1)], Yuko Okuyama[1)], Shuhei Kobayashi[1)], Masaki Nio[2)], Naoto Ishii[1)]

Department of Microbiology and Immunology, Tohoku University Graduate School of Medicine, Miyagi, Japan[1)], Department of Pediatric Surgery, Tohoku University Graduate School of Medicine, Miyagi, Japan[2)]

1-B-WS1-3-O/P

Local IL-15 dependency of liver-resident ILC1

Takuma Asahi, Akihiro Shimba, Guangwei Cui, Shinya Abe, Yuanbo Zhu, Aki Ejima, Daichi Takami, Shizue Tani-ichi, Takahiro Hara, Koichi Ikuta

Laboratory of Immune Regulation, Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan

1-B-WS1-5-O/P

β2 adrenergic receptor-mediated negative regulation of group 2 innate lymphoid cell responses

Saya Moriyama, David Artis

Weill Cornell Medicine, Cornell University, New York, USA

1-B-WS1-6-O/P

Group2 innate lymphoid cells regulate susceptibility to allergic lung inflammation via an innate amplification circuit driven by IL-4

Yasutaka Motomura[1)], Shigeo Koyasu[1,3)], Kazuyo Moro[2)]

Labortory for Innate Immune Systems, Center for Integrative Medical Sciences (IMS), RIKEN, Yokohama, Japan[1)], Labortory for Immune Cell Systems, Center for Integrative Medical Sciences (IMS), RIKEN, Yokohama, Japan[2)], Division of Immunobiology, Department of Medical Life Science, Yokohama City University, Yokohama, Japan[3)]

1-B-WS1-11-O/P

A RORγt-dependent innate lymphoid cell-type in secondary lymphoid organs expresses Aire and presents endogenously expressed antigen for T cell tolerance

Tomoyoshi Yamano[1,2)], Xiabing Lyu[1)], Rikinari Hanayama[1)], Ludger Klein[2)]

Department of Immunology, Kanazawa University Graduate School of Medical Sciences, Kanazawa, Japan[1)], Institute for Immunology, University of Munich, Munich, Germany[2)]

1-B-WS1-12-O/P

Infants breastfed with milk containing high saturated fatty acids is associated with risk of atopic dermatitis development via an involvement of ILCs

WengSheng KONG[1,3)], Hiroko INOUE[1)], Yun GUO[1)], Sho MOKUDA[1)], Naoki SHIMOJO[2)], Masamoto KANNO[1,3)]

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1-B-WS1-13-O/P

Fundamental role of LTi-like cell in the maintenance of adult intestinal homeostasis

Shinichiro Sawa[1,2)], Eriko Sumiya[1)]

Developmental Immunology, Institute for Genetic Medicine, Hokkaido Umiversity, Sapporo, Japan[1)], AMED-PRIME, Advanced Research & Development Programs for Medical Innovation, Japan Agency for Medical Research and Developmen, Tokyo, Japam[2)]

WS-2 Innate lymphocytes-2: Innate T lymphocytes (NKT, MAIT, and γδ T cells) 15:20 ~ 16:40

Room B

Chairpersons: Shinichiro Fujii, Sachiko Miyake

Innate T lymphocytes contribute to multiple immunological process including disease pathogenesis, tumor control, and protection against infections. Expression of limited TCR repertoire by NKT cells, MAIT cells, and gdT cells confer these cells unique property of both innate and acquired immunity, which makes innate T lymphocytes good candidates for clinical trial. In this session, we will mainly focus on basic biological aspects of innate T lymphocytes related to differentiation and ligands for specific TCR repertoire. Disease models to identify new effector function of innate T lymphocytes will be also discussed.

1-B-WS2-1-O/P

Constitutive CD8 expression during thymocyte development drives differentiation of innate-like CD8$^+$ T cell and NKT2 subset

Satoshi Kojo, Mihiko Ohno-Oishi, Sawako Muroi, Ichiro Taniuchi

Laboratory for Transcriptional Regulation, RIKEN Center for Integrative Medical Sciences, Yokohama, Japan

1-B-WS2-2-O/P

Pivotal role of protein kinase D in innate-like T cell development

Eri Ishikawa[1,2], Sho Yamasaki[1,2]

Department of Molecular Immunology, Research Institute for Microbial Diseases, Osaka University, Suita, Japan[1], Laboratory of Molecular Immunology, Immunology Frontier Research Center, Osaka University, Suita, Japan[2]

1-B-WS2-3-O/P

The characterization of long-lived memory like iNKT cells

Kanako Shimizu[1], Yusuke Sato[1], Masami Kawamura[1], Takashi Watanabe[2], Osamu Ohara[2], Shin-ichiro Fujii[1]

IMS, Laboratory for Immunotherapy, RIKEN, Yokohama, Japan[1], IMS, Laboratory for Integrative Genomics, RIKEN, Yokohama, Japan[2]

1-B-WS2-8-O/P

MAIT cells as a new therapeutic target for systemic lupus erythematosus

Asako Chiba[1], Goh Murayama[1,2], Tomohiro Mizuno[1], Hirofumi Amono[2], Sachiko Hirose[3], Ken Yamaji[2], Naoto Tamura[2], Sachiko Miyake[1]

Department of Immunology, Juntendo University School of Medicine, Tokyo, Japan[1], Department of Internal Medicine and Rheumatology, Juntendo University School of Medicine, Tokyo, Japan[2], Department of Biomedical Engineering, Toin University of Yokohama, Yokohama, Japan[3]

1-B-WS2-9-O/P

The search for molecules that activate mucosal associated invariant T cells in humans

Aisa Fujiwara[1], Kensuke Shibata[1,2], Eri Ishikawa[2,3], Chihiro Motozono[2,3], Sho Yamasaki[2,3,4], Kohei Sonoda[1]

Graduate School of Medical Sciences, Department of Ophthalmology, Kyushu university, Fukuoka, Japan[1], Research Institute for Microbial Diseases, Department of Molecular Immunology, Osaka University, Osaka, Japan[2], Immunology Frontier Research Center, Laboratory of Molecular Immunology, Osaka University, Osaka, Japan[3], Division of Molecular Immunology, Medical Mycology Research Center, Chiba University, Chiba, Japan[4]

1-B-WS2-11-O/P

Characteristics of Vγ6$^+$ γδ T cells in mice using novel antibody specific for Vγ6 chain

Shinya Hatano, Naoto Noguchi, Hisakata Yamada, Yasunobu Yoshikai

Division of Host Defense, Medical Institute of Bioregulation, Kyushu University, Fukuoka, Japan

WS-3 Hematopoiesis and Immune Environment-1

13:40 ~ 15:00 Room C

Chairpersons: Atsushi Iwama, Tomokatsu Ikawa

All immune cells are generated from pluripotent hematopoietic stem cells (HSCs) that reside in the bone marrow. Lineage determination is tightly controlled by transcriptional factors and epigenetic regulators. The bone marrow microenvironment is crucial for HSC maintenance and immune cell development. In this session, we will discuss the recent advances made in elucidating the cellular and molecular mechanisms related to lineage specification and the establishment of bone marrow microenvironment.

1-C-WS3-1-O/P

Non-canonical PRC1.1 is required for specification of hematopoietic progenitor cells toward B lymphoid lineage

Junichiro Takano[1)], Yaeko Nakajima-Takagi[2)], Haruhiko Koseki[1)], Atsushi Iwama[2)], Tomokatsu Ikawa[1,3)]

Center for Integrative Medical Sciences, Laboratory for Developmental Genetics, RIKEN, Yokohama, Japan[1)], Graduate School of Medicine, Department of Cellular and Molecular Medicine, Chiba University., Chiba, Japan[2)], Research Institute for Biomedical Sciences, Division of Immunobiology, Tokyo University of Science, Chiba, Japan[3)]

1-C-WS3-2-O/P

Epigenetic mechanisms for the repression of myeloid potential in T cell progenitors

Yosuke Nagahata[1,2)], Kyoko Masuda[1)], Akifumi Takaori-Kondo[2)], Hiroshi Kawamoto[1)]

Laboratory of Immunology, Institute for Frontier Life and Medical Science, Kyoto University, Kyoto, Japan[1)], Department of Hematology and Oncology, Gradduate School of Medicine, Kyoto University, Kyoto, Japan[2)]

1-C-WS3-3-O/P

Regnase-1 and Regnase-3 regulate cell fate of early lymphoid progenitors in the bone marrow

Takuya Uehata[1)], Daisuke Ori[2)], Masaki Miyazaki[1)], Hiroshi Kawamoto[1)], Osamu Takeuchi[1)]

Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan[1)], Nara Institute of Science and Technology, Nara, Japan[2)]

1-C-WS3-10-O/P

Stem cell niche-specific Ebf3 maintains the bone marrow cavity

Masanari Seike, Yoshiki Omatsu, Takashi Nagasawa

Laboratory of Stem Cell Biology and Developmental Immunology, Graduate School of Frontier Biosciences and Graduate School of Medicine, WPI Immunology Frontier Research Center, Osaka University, Osaka, Japan

1-C-WS3-11-O/P

Hematopoietic cell-derived IL-15 supports the development and maintenance of NK, NKT and memory CD8 T cells in bone marrow

Shinya Abe, Takahiro Hara, Guangwei Cui, Takuma Asahi, Koichi Ikuta

Lab. of Immune Regulation, Dept. of Virus Research, Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan

1-C-WS3-12-O/P

The role of fetal osteoclast inducer cells in perinatal bone marrow development

Eriko Sumiya, Shinichiro Sawa

Division of Developmental Immunology, Hokkaido University, Institute for Genetic Medicine, Sapporo, Japan

1-C-WS3-13-O/P

CD150^{high} Bone Marrow Tregs Maintain Hematopoietic Stem Cell Quiescence and Immune Privilege via Adenosine

Yuichi Hirata[1)], Hao Wei Li[1)], Sandra Pinho[2)], Lei Ding[3)], Simon C Robson[4)], Paul S Frenette[2)], Joji Fujisaki[1,3)]

Columbia Center for Translational Immunology, Columbia University College of Physicians and Surgeons, New York, USA[1)], Ruth L. and David S. Gottesman Institute for Stem Cell and Regenerative Medicine Research and Departments of Cell Biology and Medicine, Albert Einstein College of Medicine, New York, USA[2)], Columbia Stem Cell Initiative, Columbia University College of Physicians and Surgeons, New York, USA[3)], Division of Gastroenterology and Hepatology, Beth Israel Deaconess Medical Center, Harvard Medical School, New York, USA[4)]

WS-4 Hematopoiesis and Immune Environment-2

15:20 ~ 16:40 Room C

Chairpersons: Tomoya Katakai, Yoko Hamazaki

Immune cells develop in primary lymphoid organs such as the bone marrow and the thymus, recirculate between the secondary lymphoid organs, and migrate to target tissues upon antigen exposure. The microenvironment of lymphoid organs consists of various types of stromal cells which regulate these processes. In this session, we will discuss the development and function of the stromal components of the thymus, spleen, and lymph nodes, and the mechanisms that regulate the in vivo dynamics of lymphocytes.

1-C-WS4-1-O/P

Functional analyses of cortical thymic epithelial cells in NF-κB-inducing kinase (NIK)-mutated, *alymphoplasia* mice

Koji Eshima, Kazuya Iwabuchi

Department of Immunology, Kitasato University School of Medicine, Sagamihara, Japan

1-C-WS4-3-O/P

Characterization of thymic fibroblast subsets

Masanori Tsutsumi, Takeshi Nitta, Hiroshi Takayanagi

Depertment of Immunology, Graduate School of Medicine and Faculty of Medicine, The University of Tokyo, Tokyo, Japan

1-C-WS4-4-O/P

Analysis of the role of thymic APCs and Aire in the production of thymic Tregs

Junko Morimoto, Hitoshi Nishijima, Minoru Matsumoto, Mitsuru Matsumoto

Division of Molecular Immunology, Institute for Enzyme Research, Tokushima University, Tokushima, Japan

1-C-WS4-8-O/P

The spleen serves as a specific microenvironment that support development of B-1a cells and LAG-3^{+} CD138^{+} natural regulatory plasma cells

Akihisa Oda[1)], Keiko Fujisaki[1,2)], Yuta Ueno[1,2)], Ryo Goitsuka[1)]

Division of Development and Aging, Research Institute for Biomedical Sciences, Tokyo University of Science, Chiba, Japan[1)], Laboratory of Molecular Biology and Immunology, Department of Biological Science and Technology, Tokyo University of Science, Tokyo, Japan[2)]

1-C-WS4-9-O/P

SIRPα^{+} dendritic cells regulate organization of lymph node stromal cells *in vivo*

Satomi Komori, Yasuyuki Saito, Respatika Datu, Takenori Kotani, Yoji Murata, Takashi Matozaki

Division of Molecular and Cellular Signaling, Department of Biochemistry and Molecular Biology, Kobe University Graduate School of Medicine, Kobe, Japan

1-C-WS4-10-O/P

The role of MD-1 in S1P-mediated peripheral leukocyte circulation

Natsuko Tanimura[1,2)], Sachiko Akashi-Takamura[1,3)], Toshihiko Kobayashi[4)], Kensuke Miyake[1)]

the Institute of Medical Science, the University of Tokyo, Minato-ku, Japan[1)], Tokyo Women's Medical University, Tokyo, Japan[2)], Aichi Medical University, Aichi, Japan[3)], National Center for Global Health and Medicine, Tokyo, Japan[4)]

1-C-WS4-11-O/P

Live imaging of the allogeneic T cell rejection in secondary lymphoid organs

Yasuhiro Kanda[1)], Arata Takeuchi[1)], Madoka Ozawa[1)], Tatsuo Kinashi[2)], Kenjiro Matsuno[3)], Tomoya Katakai[1)]

Department of Immunology and Medical Zoology, Niigata University Graduate School of Medical and Dental Sciences, Niigata, Japan[1)], Institute of Biomedical Science, Department of Molecular Genetics, Kansai Medical University, Hirakata, Japan[2)], Department of Anatomy (Macro), Dokkyo Medical University, Tochigi, Japan[3)]

WS-5 B cells-1:B cell activation and development

13:40 ~ 15:00 Room D

Chairpersons: Yoshihiro Baba, Wataru Ise

Production of antibodies by B cells is critical for the successful removal of pathogens. Once B cells encounter antigens in peripheral lymphoid organs, a complex series of activation and maturation events drives the generation of germinal center (GC) B cells and antibody-secreting plasma cells. Antibody diversification achieved through somatic hypermutation and class switch recombination processes play a critical role in eliminating pathogens effectively. Despite the substantial advances that have been made in understanding the cellular and molecular requirements for B cell responses, many questions regarding these processes remain. This workshop is focused on the recent findings of the factors and mechanisms controlling and regulating B cell development, migration, activation, class switch recombination, and GC reaction during immune responses. We welcome your participation and active discussion. Presentation will be 8 minutes followed by 3 minutes Q&A.

1-D-WS5-1-O/P

Essential role of NADPH oxidase-dependent production of reactive oxygen species in maintenance of sustained B cell receptor signaling and B cell proliferation

Yangyang Feng[1)], Jun Liu[2)], Helmut Grasberger[3)], Ji-Yang Wang[2)], Takeshi Tsubata[1)]

Department of Immunology, Medical Research Institute, Tokyo Medical and Dental University, Tokyo, Japan[1)], Department of Immunology, Fudan University School of Basic Medical Sciences, Shanghai, China[2)], Department of Medicine, University of Michigan, Michigan, USA[3)]

1-D-WS5-3-O/P

The COMMD3/8 complex promotes B cell migration and humoral immune response

Jun Fujimoto[1,2)], Akiko Nakai[1)], Atushi Kumanogoh[2,3)], Kazuhiro Suzuki[1,4)]

Laboratory of Immune Response Dynamics, Immunology Frontier Research Center, Osaka University, Osaka, Japan[1)], Department of Respiratory Medicine and Clinical Immunology, Graduate School of Medicine, Osaka University, Osaka, Japan[2)], Core Research for Evolutional Science and Technology, Japan Agency for Medical Research and Development, Tokyo, Japan[3)], Department of Molecular Immunology, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[4)]

1-D-WS5-9-O/P

Critical roles for Rho-associated coiled-coil containing protein kinases in B cell development, maintenance, and germinal center responses

Harumichi Ishigame[1)], Sonoko Takahashi[1,4,5)], Noriko Takahashi[1)], Yoshikazu Ando[1)], Takashi Ikeno[1,6,7)], Tomohiro Miyai[2)], Tomokatsu Ikawa[2)], Takeshi Inoue[7)], Tomohiro Kurosaki[3,6,7)], Takaharu Okada[1,5,8)]

Laboratory for Tissue Dynamics, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[1)], Laboratory for Immune Regeneration, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[2)], Laboratory for Lymphocyte Differentiation, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[3)], Department of Biosciences, School of Science, Kitasato University, Kanagawa, Japan[4)], Graduate School of Medical Life Science, Yokohama City University, Yokohama, Japan[5)], Laboratory of Lymphocyte Differentiation, World Premier International Immunology Frontier Research Center, Osaka University, Osaka, Japan[6)], Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan[7)], PRESTO, Japan Science and Technology Agency, Saitama, Japan[8)]

1-D-WS5-10-O/P

Metabolic control of germinal center B cell and plasma cell differentiation

Kei Haniuda, Saori Fukao, Daisuke Kitamura

Division of Molecular Biology, Research Institute for Biomedical Sciences, Tokyo University of Science, Chiba, Japan

1-D-WS5-11-O/P

Inducing Mechanisms of Somatic Hypermutation in Germinal Center B cells

Shunsuke Amano, Saori Fukao, Kei Haniuda, Daisuke Kitamura

Division of Molecular Biology, Research Institute for Biomedical Sciences, Tokyo University of Science, Chiba, Japan

1-D-WS5-12-O/P

Transcriptional elongation factor *Aff3* regulates class switching of antibody in B cells

Shin-ichi Tsukumo, Koji Yasutomo

Tokushima University, Tokushima, Japan

1-D-WS5-13-O/P

The specific induction of IgA production by PKC activators

Hitomi Sakatani[1)], Aoi Son[2)], Reiko Shinkura[2)]

Nara Institute of Science and Technology, Nara, Japan[1)], The University of Tokyo, Tokyo, Japan[2)]

WS-6 B cells-2:Roles and regulation of B cells in diseases

15:20 ~ 16:40 Room D

Chairpersons: Masaki Hikida, Yoshimasa Takahashi

Success in the treatment by B cell depletion has proven that B lineage cells are playing pivotal roles in several immune diseases. However, how B cells are implicated in the pathogenesis and the development of these diseases are still remained to be revealed in detail. From this point of view, first part of this session is focused on the roles of B cells in various immune diseases such as SLE, allergy and IgA nephropathy. It is also well known that anti-virus antibody response is essential for the protection from viral infection in many cases. In spite of intensive efforts, how protective vaccines can be produced effectively remains unclear. In the latter part of the session, regulatory mechanisms of B cell responses to viral infection and the characteristic nature of cryptic epitopes of influenza virus are discussed. Also regulatory mechanisms in B cell responses to the particulate adjuvants are discussed.

1-D-WS6-1-O/P

B cell regulation through modulation of autophagy by inhibitory cytokines

Mariko Inoue[1)], Tomohisa Okamura[1,2,3)], Toshihiko Komai[1)], Yukiko Iwasaki[1)], Shuji Sumitomo[1)], Hirofumi Shoda[1)], Kazuhiko Yamamoto[1,3,4)], Keishi Fujio[1)]

Department of Allergy and Rheumatology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[1)], Department of Functional Genomics and Immunological Diseases, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[2)], Max Planck-The University of Tokyo Center for Integrative Inflammology, The University of Tokyo, Tokyo, Japan[3)], Laboratory for Autoimmune Diseases, Center for Integrative Medical Sciences, RIKEN, Kanagawa, Japan[4)]

1-D-WS6-2-O/P

Involvement of essential amino acid in human B cell differentiation and its relevant to the pathogenesis of SLE

Mingzeng Zhang, Shigeru Iwata, Maiko Hajime, Naoaki Ohkubo, Kaoru Yamagata, Yoshiya Tanaka

The First Department of Internal Medicine, The First Department of Internal Medicine, University of Occupational and Environmental Health, Fukuoka, Japan

1-D-WS6-3-O/P

Molecular mechanisms that trigger autonomous signaling from membrane IgE

Kei Kato[1)], Kei Haniuda[2)], Daisuke Kitamura[3)]

Molecular biology, Research Institute for Biomedical Sciences, Tokyo University of Science, Noda, Japan[1)], Molecular biology, Research Institute for Biomedical Sciences, Tokyo University of Science, Noda, Japan[2)], Molecular biology, Research Institute for Biomedical Sciences, Tokyo University of Science, Noda, Japan[3)]

1-D-WS6-4-O/P

Characteristics of naïve B cells in murine IgA Nephropathy

Yoshihito Nihei[1)], Kei Haniuda[2)], Mizuki Higashiyama[2)], Yusuke Suzuki[1)], Daisuke Kitamura[2)]

Department of Nephrology, Juntendo University Faculty of Medicine, Tokyo, Japan[1)], Research Institute for Biomedical Sciences, Tokyo University of Science, Chiba, Japan[2)]

1-D-WS6-7-O/P

Virus-like particle structure enhances protective IgA antibody responses against noroviruses

Taishi Onodera[1)], Manabu Ato[2)], Yoshimasa Takahasi[1)]

Department of Immunology, National Institute of Infectious Diseases, Tokyo, Japan[1)], Department of Mycobacteriology, National Institute of Infectious Diseases, Tokyo, Japan[2)]

1-D-WS6-8-O/P

Influenza hemagglutinin cryptic epitopes that select broadly reactive germinal center B cells in local site

Yu Adachi[1)], Arnone Nithichanon[2)], Masayuki Kuraoka[3)], Akiko Watanabe[3)], Ryo Shinnakasu[4)], Takuya Yamamoto[5)], Ken J Ishii[6)], Ganjana Lertmemongkolchai[2)], Tomohiro Kurosaki[4,7)], Manabu Ato[8)], Garnett Kelsoe[3)], Yoshimasa Takahashi[1)]

Department of Immunology, National Institute of Infectious Diseases, Tokyo, Japan[1)], Center for Research and Development of Medical Diagnostic Laboratories, Faculty of Associated Medical Sciences, Khon Kaen University, Khon Kaen, Thailand[2)], Department of Immunology, Duke University, Durham, USA[3)], Laboratory of Lymphocyte Differentiation, WPI Immunology Frontier Research Center and Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan[4)], Laboratory of Immunosenescence, Center for Vaccine and Adjuvant Research, National Institutes of Biomedical Innovation, Health and Nutrition, Osaka, Japan[5)], Laboratory of Adjuvant Innovation, Center for Vaccine and Adjuvant Research, National Institutes of Biomedical Innovation, Health and Nutrition, Osaka, Japan[6)], Laboratory for Lymphocyte Differentiation, RIKEN Center for Integrative Medical Sciences, Yokohama, Japan[7)], Leprosy Research Center, National Institute of Infectious Diseases, Tokyo, Japan[8)]

1-D-WS6-9-O/P

Intrinsic MyD88 signalling in B cells controls IFNγ-mediated early IgG2c class switching in response to a particulate adjuvant

Michelle Sue Jann Lee[1)], Wataru Ise[1)], Tomohiro Kurosaki[1)], Shizuo Akira[1)], Ken J Ishii[1,2)], Cevayir Coban[1)]

Immunology Frontier Research Center, Osaka University, Osaka, Japan[1)], National Institutes of Biomedical Innovation, Health and Nutrition, Osaka, Japan[2)]

WS-7 Dendritic cells and macrophages-1: Differentiation and functions 13:40 ~ 15:00 Room E

Chairpersons: Tomohiko Tamura, Hiroaki Hemmi

Dendritic cells (DCs), monocytes, and macrophages, all of which belong to the mononuclear phagocyte system and share (at least in adults) common progenitors, play essential roles in innate immune responses, tissue homeostasis, and antigen presentation. Various factors such as transcription factors, intracellular signaling molecules, and cell surface molecules are involved in the regulation of their development and functions. This work features 9 cutting edge talks on the molecular mechanisms underlying such biological processes.

1-E-WS7-1-O/P

Regulation of *Irf8* expression and mononuclear phagocytes development by distal enhancers

Haruka Sasaki, Wataru Kawase, Kousei Nishimura, Daisuke Kurotaki, Akira Nishiyama, Tomohiko Tamura

Department of Immunology, Yokohama City University Graduate School of Medicine, Yokohama, Japan

1-E-WS7-2-O/P

Impaired development of dendritic cells in proteasome subunit mutant mice

Hiroaki Hemmi[1)], Toshiya Ozasa[1)], Akira Kinoshita[2)], Takashi Kato[1)], Takashi Orimo[1)], Izumi Sasaki[1)], Yuri Fukuda-Ohta[1)], Noriko Kinjo[3)], Koh-Ichiro Yoshiura[4)], Tsunehiro Mizushima[4)], Nobuo Kanazawa[5)], Tsuneyasu Kaisho[1)]

Department of Immunology, Institute of Advanced Medicine, Wakayama Medical University, Wakayama, Japan[1)], Department of Human Genetics, Atomic Bomb Disease Institute, Nagasaki University, Nagasaki, Japan[2)], Department of Child Health and Welfare (Pediatrics), Graduate School of Medicine, University of the Ryukyus, Nishihara, Japan[3)], Graduate School of Life Science, Picobiology Institute, University of Hyogo, Kamigori, Japan[4)], Department of Dermatology, Wakayama Medical University, Wakayama, Japan[5)]

1-E-WS7-3-O/P

The role of Acp2 in lysosomal TLR response

Yun Zhang, Ryota Sato, Kaiwen Liu, Kensuke Miyake

Division of innate immunity, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan

1-E-WS7-4-O/P

Cholera toxin B can induce interleukine-1β production in peritoneal macrophages through activation of pyrin inflammasome

Izumi Sasaki[1)], Takashi Orimo[1)], Hiroaki Hemmi[1)], Toshiya Ozasa[1)], Yuri Fukuda-Ohta[1)], Mio Morinaka[1)], Shinji Fukuda[3)], Koichi Furukawa[4)], Etsushi Kuroda[5)], Ken J. Ishii[5)], Tsuneyasu Kaisho[1,2)]

Department of Immunology, Institute of Advaneced Medicine, Wakayama Medical University, Wakayama, Japan[1)], Laboratory for Immune Regulation, Immunology Frontier Research Center, Osaka University, Osaka, Japan[2)], Institute for Advanced Biosciences, Keio University, Yamagata, Japan[3)], Department of Lifelong Sports and Health Sciences, Chubu University College of Life and Health Sciences, Kasugai, Japan[4)], Laboratory of Vaccine Science, WPI Immunology Frontier Research Center, Osaka University, Osaka, Japan[5)]

1-E-WS7-5-O/P

LPS from lymphoid-tissue resident *Alcaligenes* induces IgA without excessive inflammation via its weak TLR4 agonist activity

Naoko Shibata[1,2,3)], Jun Kunisawa[2,3,4,5)], Koji Hosomi[3)], Hitomi Mimuro[6,10)], Shintaro Sato[2,7)], Ken J Ishii[8,9)], Hiroshi Kiyono[2,5)]

Faculty of Science and Engineering, Waseda University, Tokyo, Japan[1)], International Research and Development Center for Mucosal Vaccines, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[2)], Laboratory of Vaccine Materials and Laboratory of Gut Environmental System, National Institutes of Biomedical Innovation, Health and Nutrition (NIBIOHN), Osaka, Japan[3)], Graduate School of Medicine, Graduate School of Pharmaceutical Sciences, Graduate School of Dentistry, Osaka University, Osaka, Japan[4)], Division of Gastroenterology, Department of Medicine, CU-UCSD Center for Mucosal Immunology, Allergy and Vaccines, University of California, San Diego, Ameria[5)], Department of Infectious Disease Control, International Research Center for Infectious Disease, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[6)], Mucosal Vaccine Project, BIKEN Innovative Vaccine Research Alliance Laboratories, Osaka University, Osaka, Japan[7)], Laboratory of Adjuvant Innovation, National Institutes of Biomedical Innovation, Health and Nutrition (NIBIOHN), Osaka, Japan[3)], Laboratory of Vaccine Science, WPI Immunology Frontier Research Center (IFReC), Osaka, Japan[9)], Department of Infection Microbiology, Research Institute for Microbial Disease, Osaka University, Osaka, Japan[10)]

1-E-WS7-6-O/P

Semaphorin 6D reverse signaling controls macrophage lipid metabolism and anti-inflammatory polarization

Sujin Kang[1)], Yoshimitsu Nakanishi[2)], Atsushi Kumanogoh[2)]

Department of Immune Regulation, iFReC, Osaka University, Suita, Osaka, Japan[1)], Department of Respiratory medicine and clinical immunology, Graduate school of medicine, osaka university, Suita, Osaka, Japan[2)]

1-E-WS7-7-O/P

Lamtor1 (p18) plays a crucial role in DC trafficking especially in interstitial migration

Takeshi Nakatani, Hyota Takamatsu, Atsushi Kumanogo

Department of Respiratory Medicine and Clinical Immunology, Osaka university graduate school of medicine, Osaka, Japan

1-E-WS7-8-O/P

Adipose tissue macrophages promote adiposity by suppressing lipolysis in white adipocytes through activation of the GDF3-ALK7 axis

Katsuhide Okunishi, Yun Bu, Tetsuro Izumi

Institute for Molecular and Cellular Regulation, Gunma University, Maebashi, Japan

1-E-WS7-9-O/P

Involvement of DNAM-1 (CD226) expressed on small peritoneal macrophages in CD4$^+$ T cell priming

Anh V. Vo[1,3)], Eri Takenaka[1)], Yumi Yamashita-Kanemaru[1)], Akira Shibuya[1,2)], Kazuko Shibuya[1)]

Depertment of Immunology, Faculty of Medicine, University of Tsukuba, Tsukuba, Japan[1)], Life Science Center for survival dynamics, Tsukuba Advanced Research Alliance (TARA), University of Tsukuba, Tsukuba, Japan[2)], Human Biology Program, School of Integrative and Global Majors, University of Tsukuba, Tsukuba, Japan[3)]

WS-8 Dendritic cells and macrophages-2: Roles in pathogenesis

15:20 ~ 16:40 Room E

Chairpersons: Masato Tanaka, Nobuyuki Onai

Dendritic cells (DCs) and macrophages are present all tissues; they regulate both immune response and tissue homeostasis, and participate in the initiation and progression of various diseases. Their functions are regulated by intrinsic factors and extrinsic stimuli. These cells produce cytokines and chemokines, express specific molecules, interact with other cells, and contribute to immune responses, tissue inflammation, and disease. In this session, we would like to focus on and discuss multiple aspects of DCs and macrophages in disease settings.

1-E-WS8-1-O/P

IRF5 siRNA-loaded biodegradable lipid nanoparticles ameliorate concanavalin A-induced liver injury

Wataru Kawase[1)], Daisuke Kurotaki[1)], Hideyuki Yanai[2)], Tadatsugu Taniguchi[2)], Tomohiko Tamura[1)]

Department of Immunology, Yokohama City University Graduate School of Medicine, Yokohama, Japan[1)], Department of Molecular Immunology, Institute of Industrial Science, The University of Tokyo, Tokyo, Japan[2)]

1-E-WS8-2-O/P

PU.1 is a transcriptional activator of *Ccl17* and *Ccl22* and is a potential therapeutic target for allergic diseases

Takuya Yashiro, Chiharu Nishiyama

Department of Biological Science and Technology, Tokyo University of Science, Tokyo, Japan

1-E-WS8-3-O/P

A chemokine signal amplifier FROUNT promotes tumor progression by facilitating migration and activation of tumor-associated macrophage

Etsuko Toda, Kouji Matsushima

Division of Molecular Regulation of Inflammatory and Immune Diseases, Research Institute for Biomedical Science (RIBS), Tokyo University of Science, Chiba, Japan

1-E-WS8-4-O/P

Importance of SIRPα on dendritic cells for the development of experimental autoimmune encephalomyelitis

Taichi Nishimura[1,2)], Yasuyuki Saito[1)], Satomi Komori[1)], Respatika Datu[1)], Ken Washio[1)], Takenori Kotani[1)], Yoji Murata[1)], Satoshi Mizobuchi[2)], Takashi Matozaki[1)]

Division of Molecular and Cellular Signaling, Department of Biochemistry and Molecular Biology, Kobe University Graduate School of Medicine, Kobe, Japan[1)], Division of Anesthesiology, Department of Surgery Related, Kobe University Graduate School of Medicine, Kobe, Japan[2)]

1-E-WS8-5-O/P

Spred2 deficiency exacerbates adipose tissue inflammation and systemic insulin resistance in mice

Takahiro Ohkura, Teizo Yoshimura, Akihiro Matsukawa

Department of Pathology and Experimental Medicine, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Okayama, Japan

1-E-WS8-6-O/P

Disruption of Lnk/SH2B3 increases severity of STZ-induced diabetes

Mari Tenno, Satoshi Takaki

Department of Immune Regulation, Research Institute National Center for Global Health and Medicine, Chiba, Japan

1-E-WS8-7-O/P

Liver X Receptor activation exerts the different effects on the function of liver resident Kupffer cells and recruited macrophages

Takuya Ishikiriyama[1)], Hiroyuki Nakashima[1)], Shoichiro Kato[1)], Kaori Endo-Umeda[2)], Masahiro Nakashima[1)], Manabu Kinoshita[1)], Makoto Makishima[2)], Shuhji Seki[1)]

Department of Immunology and Microbiology, National Defense Medical College, Saitama, Japan[1)], Division of Biochemistry, Department of Biomedical Sciences, Nihon University School of Medicine, Tokyo, Japan[2)]

1-E-WS8-8-O/P

Sphingosine-1-phosphate Receptor Modulation Expands CD11b^{+}Gr-1^{+}Cells and Inhibits Lymphocyte Infiltration to Ameliorate Murine Pulmonary Emphysema

Takanori Asakura[1,2)], Makoto Ishii[1)], Ho Namkoong[1)], Shoji Suzuki[1)], Shizuko Kagawa[1)], Takaki Komiya[3)], Kazuma Yagi[1)], Hirofumi Kamata[1)], Satoshi Okamori[1)], Takahiro Asami[1)], Naoki Hasegawa[4)], Tomoko Betsuyaku[1)]

Division of Pulmonary Medicine, Department of Medicine, Keio University School of Medicine, Tokyo, Japan[1)], Japan Society for the Promotion of Science, Tokyo, Japan[2)], Department of Biology & Pharmacology, Ono Pharmaceutical Co., Ltd., Osaka, Japan[3)], Center for Infectious Diseases and Infection Control, Keio University School of Medicine, Tokyo, Japan[4)]

1-E-WS8-9-O/P

The roles of anti-inflammatory macrophages in the peripheral nerve injury-induced neuroinflammation

Kobayashi Daichi

Department of Pharmaology, Wakayama medical university, Wakayama, Japan

WS-9 Systemic autoimmune diseases-1

13:40 ~ 15:00 Room F

Chairpersons: Kimito Kawahata, Shingo Nakayamada

Systemic autoimmune diseases are a heterogenous group of immune-mediated multi-organ inflammatory disorders, which include systemic erythematosus, rheumatoid arthritis, systemic sclerosis, dermatomyositis, polymyositis and vasculitis. These autoimmune diseases are pathologically characterized by the presence of immune complexes, the activation of autoreactive lymphocytes, and the overproduction of autoantibodies, which cause inflammation in various organs. To explore new treatments that can be tailored to the severity of each individual's condition, immunophenotyping and comprehensive omics approaches may help to shed light on complex pathogenic mechanisms. In this session, recent advances in research on human autoimmune diseases and animal models using these approaches will be discussed. We hope that all participants have an active discussion in both oral and poster presentation and that this session will provide insights into the underlying diseases mechanisms.

1-F-WS9-1-O/P

Immune cell-type specific multi-omics analysis revealed contribution of mitochondria in Bcells to systemic lupus erythematosus

Yusuke Takeshima[1,2,3], Yukiko Iwasaki[2], Mineto Ota[1,2,3], Yasuo Nagafuchi[2], Shuji Sumitomo[2], Yuta Kochi[3], Tomohisa Okamura[1], Kazuhiko Yamamoto[3], Keishi Fujio[2]

Department of Functional Genomics and Immunological Diseases, Graduate School of Medicine, the University of Tokyo, Tokyo, Japan[1], Department of Allergy and Rheumatology, Graduate School of Medicine, the University of Tokyo, Tokyo, Japan[2], Laboratory for Autoimmune Diseases, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[3]

1-F-WS9-2-O/P

Expansion of peripheral helper T cell are associated with disease activity and B cell differentiation in systemic lupus erythematosus

Ayako Makiyama[1,2], Asako Chiba[1], Goh Murayama[1,2], Ken Yamaji[2], Naoto Tamura[2], Sachiko Miyake[1]

Department of Immunology, Juntendo University School of Medicine, Tokyo, Japan[1], Department of Internal Medicine of Rheumatology, Juntendo University School of Medicine, Tokyo, Japan[2]

1-F-WS9-3-O/P

Autoreactive thymus-derived CXCR5$^-$ B cell-helper T cells promote B cells to produce autoantibodies

Mitsuru Imamura[1,2], Lisa Akahira[2], Ei Bannai[2], Kazuya Michishita[2], Takeshi Tokuhisa[4], Kazuhiko Yamamoto[2,5], Kimito Kawahata[1,2,6]

Division of Rheumatology and Allergology, Department of Internal Medicine, St. Marianna University School of Medicine, Kawasaki, Japan[1], Department of Allergy and Rheumatology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[2], Department of Internal Medicine, Yamanashi Prefectural Central Hospital, Yamanashi, Japan[3], Department of Developmental Genetics, Graduate School of Medicine, Chiba University, Chiba, Japan[4], Laboratory for Autoimmune Diseases, RIKEN Center for Integrative Medical Sciences, Kanagawa, Japan[5], Department of Rheumatology, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University (TMDU), Tokyo, Japan[6]

1-F-WS9-4-O/P

mTORC1 phosphorylation in CXCR3$^+$memory B cells and its relevance to the pathogenesis of rheumatoid arthritis

Shigeru Iwata[1], Mingzeng Zhang[1], Maiko Hajime[1], Jie Fan[1], Kei Sakata[1,2], Naoaki Ohkubo[1], Kazuhisa Nakano[1], Shingo Nakayamada[1], Yoshiya Tanaka[1]

The First Department of Internal Medicine, University of Occupational and Environmental Health, Kitakyushu, Japan, Kitakyushu, Japan[1], Mitsubishi Tanabe Pharma, Yokohama, Kanagawa, Japan, Yokohama, Japan[2]

1-F-WS9-5-O/P

Favorable efficacy of rituximab in ANCA-associated vasculitis patients with excessive B cell differentiation

Yusuke Miyazaki, Shingo Nakayamada, Satoshi Kubo, Kazuhisa Nakano, Shigeru Iwata, Shunsuke Fukuyo, Ippei Miyagawa, Akio Kawabe, Yoshiya Tanaka

The First Department of Internal Medicine, University of Occupational and Environmental Health, Japan, Kitakyusyu, Japan

1-F-WS9-6-O/P

RNA-Seq transcriptomics reveals potential contribution of each immune cell subset to the pathogenesis of idiopathic inflammatory myopathy

Yusuke Sugimori[1], Yukiko Iwasaki[1], Yusuke Takeshima[1,2], Mineto Ota[1,2], Yasuo Nagafuchi[1], Shuji Sumitomo[1], Hirofumi Shoda[1], Yuta Kochi[3], Tomohisa Okamura[1,2], Kazuhiko Yamamoto[1,3], Keishi Fujio[1]

Department of Allergy and Rheumatology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[1], Department of Functional Genomics and Immunological Diseases, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[2], Laboratory for Autoimmune Diseases, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[3]

1-F-WS9-7-O/P

Immunophenotyping and gene expression analysis of PBMC subsets in Behcet's disease

Mai Okubo[1)], Shuji Sumitomo[1)], Mineto Ota[1,2)], Yusuke Takeshima[1,2)], Satomi Kobayashi[1)], Yusuke Sugimori[1)], Yasuo Nagafuchi[1)], Yukiko Iwasaki[1)], Hirofumi Shoda[1)], Tomohisa Okamura[1,2)], Kazuhiko Yamamoto[3)], Keishi Fujio[1)]

Department of Allergy and Rheumatology, Graduate school of medicine, The University of Tokyo, Tokyo, Japan[1)], Department of Functional Genomics and Immunological Diseases, Graduate school of medicine, The University of Tokyo, Tokyo, Japan[2)], RIKEN Center for Integrative Medical Sciences, Yokohama, Japan[3)]

1-F-WS9-8-O/P

Transcriptome analysis of peripheral blood immune cells for exploring characteristic gene module of systemic sclerosis

Satomi Kobayashi[1)], Yasuo Nagafuchi[1)], Hirofumi Shoda[1)], Mai Okubo[1)], Yusuke Sugimori[1)], Mineto Ohta[1,2)], Yusuke Takeshima[1,2)], Yukiko Iwasaki[1)], Shuji Sumitomo[1)], Tomohisa Okamura[1,2)], Kazuhiko Yamamoto[3)], Keishi Fujio[1)]

Department of Allergy and Rheumatology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[1)], Department of Functional Genomics and Immunological Diseases, Graduate School of Medicine, the University of Tokyo, Tokyo, Japan[2)], Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[3)]

WS-10 Systemic autoimmune diseases-2

15:20 ~ 16:40 Room F

Chairpersons: Akemi Sakamoto, Shinsuke Yasuda

Systemic autoimmune diseases are a heterogenous group of immune-mediated multi-organ inflammatory disorders, which include systemic erythematosus, rheumatoid arthritis, systemic sclerosis, dermatomyositis, polymyositis and vasculitis. These autoimmune diseases are pathologically characterized by the presence of immune complexes, the activation of autoreactive lymphocytes, and the overproduction of autoantibodies, which cause inflammation in various organs. To explore new treatments that can be tailored to the severity of each individual's condition, immunophenotyping and comprehensive omics approaches may help to shed light on complex pathogenic mechanisms. In this session, recent advances in research on human autoimmune diseases and animal models using these approaches will be discussed. We hope that all participants have an active discussion in both oral and poster presentation and that this session will provide insights into the underlying diseases mechanisms.

1-F-WS10-1-O/P

Enhanced TLR7 and STING pathways in systemic lupus erythematosus

Goh Murayama[1,2], Asako Chiba[1], Ayako Makiyama[1,2], Ken Yamaji[2], Naoto Tamura[2], Sachiko Miyake[1]

1Department of Immunology, Juntendo University School of Medicine, Tokyo, Japan[1], Department of Internal Medicine and Rheumatology, Juntendo University School of Medicine, Tokyo, Japan[2]

1-F-WS10-2-O/P

Pathophysiological research of systemic lupus erythematosus (SLE) using healthy donor and patient derived iPS cells with genome editing approach

Bunki Natsumoto[1], Hirofumi Shoda[1], Huan-Ting Lin[2], Yasuo Nagafuchi[1], Kazuhiko Yamamoto[3], Makoto Otsu[2], Keishi Fujio[1]

Allergy and Rheumatology, The University of Tokyo, Tokyo, Japan[1], Stem Cell Processing/Stem Cell Bank, Center for Stem Cell Biology and Regenerative Medicine, Institute of Medical Science, The University of Tokyo, Tokyo, Japan[2], Laboratory for Autoimmune Diseases, Center for Integrative Medical Sciences, RIKEN, Tokyo, Japan[3]

1-F-WS10-3-O/P

Recognition of DNA / HLA-class II complex by anti-DNA antibodies from SLE patients

Hideaki Tsuji[1,2,3], Koichiro Ohmura[1], Shuhei Sakakibara[4], Noriko Arase[2,3], Masako Kohyama[2,3], Tadahiro Suenaga[2,3], Hitoshi Kikutani[4], Tsuneyo Mimori[1], Hisashi Arase[2,3]

Department of Rheumatology and Clinical Immunology, Kyoto University Graduate School of Medicine, Kyoto, Japan[1], Laboratory of Immunochemistry, Immunology Frontier Research Center, Osaka University, Osaka, Japan[2], Department of Immunochemistry, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[3], Laboratory of Immune Regulation, Immunology Frontier Research Center, Osaka University, Osaka, Japan[4]

1-F-WS10-4-O/P

Semaphorins and their involvement in the pathogenesis of autoimmune vasculitis

Masayuki Nishide, Atsushi Kumanogoh

Department of Respiratory Medicine and Clinical Immunology, Osaka University Graguate School of Medicine, Osaka, Japan

1-F-WS10-5-O/P

The Immunogenetics of Inflammatory Mechanisms by Fibroblast-like Synoviocytes form Rheumatoid Arthritis Patients

Haruka Tsuchiya[1], Mineto Ota[1], Shuji Sumitomo[1], Kazuyoshi Ishigaki[2], Yuta Kochi[2], Yumi Tsuchida[1], Hirofumi Shoda[1], Kazuhiko Yamamoto[2], Keishi Fujio[1]

Department of Allergy and Rheumatology, The University of Tokyo, Tokyo, Japan[1], Center for Integrative Medical Sciences, RIKEN, Tokyo, Japan[2]

1-F-WS10-6-O/P

RASGRP2 (CalDAG-GEFI) Expression in Rheumatoid Synovium Promotes Adhesion/Migration and IL-6 Production

Hiroyuki Nakamura, Shinsuke Yasuda, Sanae Shimamura, Michihiro Kono, Michihito Kono, Masaru Kato, Kenji Oku, Toshiyuki Bohgaki, Tatsuya Atsumi

Department of Rheumatology, Endocrinology and Nephrology, Faculty of Medicine and Graduate School of Medicine, Hokkaido University, Sapporo, Japan

1-F-WS10-7-O/P

Tofacitinib Facilitates the Expansion of Myeloid-Derived Suppressor Cells and Ameliorates Interstitial Lung Disease in SKG Mice

Sho Sendo, Jun Saegusa, Hirotaka Yamada, Akio Morinobu

Rheumatology and Clinical Immunology, Internal Medicine, Kobe University Graduate School of Medicine, Kobe, Japan

1-F-WS10-8-O/P

Up-regulation of *TMEM176A* and *TMEM176B* gene were prominent at subclinical stage of pulmonary arterial hypertension in systemic sclerosis

Yoshinobu Koyama[1)]

Rheumatology, Center for Autoimmune Diseases, Japanese Red Cross Okayama Hospital, Okayama, Japan[1)], Cardiology, Center for Autoimmune Diseases, Japanese Red Cross Okayama Hospital, Okayama, Japan[2)], DNA Chip Research Inc., Tokyo, Japan[3)]

WS-11 Cytokines and chemokines-1:Inflammation

13:40 ~ 15:00 Room G

Chairpersons: Satoshi Ueha, Takayuki Yoshimoto

Cytokines and chemokines are key molecules that play critical roles in the regulation of not only cell growth and differentiation, but also various innate and adaptive immune responses and cell trafficking. Dysregulation of their expression and signal transduction pathways often causes the development of various diseases including inflammatory and autoimmune diseases. Therefore, the elucidation of mechanisms to regulate their expression and signal transduction pathways leads to the clarification of pathogenesis of these diseases, as well as the development of therapeutic strategy against them. In this session, we will mainly focus on inflammation; novel roles and mechanisms of chemokines, TRAF5, low molecular molecules, ADSCs, and IFN-g in the signal transduction pathways and inflammatory responses including thrombosis, lung inflammation, arthritis, colitis, and NASH.

1-G-WS11-1-O/P

The COMMD3/8 complex dictates the specificity of GRK recruitment to chemoattractant receptors

Akiko Nakai[1)], Jun Fujimoto[1,2)], Kazuhiro Suzuki[1,3)]

Immunology Frontier Research Center, Osaka University, Osaka, Japan[1)], Graduate School of Medicine, Osaka University, Osaka, Japan[2)], Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[3)]

1-G-WS11-2-O/P

Smothened competes with CXCR4 for G_{ai} coupling to fortify immune synapse and regulate T cell activation

Olga Elisseeva, Tadashi Yamamoto

Center for Integrative Medical Sciences, Laboratory of Immunogenetics, RIKEN, Yokohama, Japan

1-G-WS11-3-O/P

Roles of CX3CR1-fractalkine axis during thrombus formation and resolution on murine deep vein thrombosis model

Mizuho Nosaka[1)], Yuko Ishida[1)], Akihiko Kimura[1)], Yumi Kuninaka[1)], Naofumi Mukaida[2)], Toshikazu Kondo[1)]

Department of Forensic Medicine, Wakayama Medical University, Wakayama, Japan[1)], Division of Molecular Bioregulation, Cancer Research Institute, Kanazawa University, Kanazawa, Japan[2)]

1-G-WS11-7-O/P

TNF receptor associated factor 5 controls oncostatin M-mediated lunginflammation

Tomoaki Machiyama[1,2)], Takanori So[2,3)], Hideo Harigae[1)], Naoto Ishii[3)]

Department of Hematology and Rheumatology, Tohoku University Graduate School of Medicine, Sendai, Japan[1)], Department of Microbiology and Immunology, Tohoku University Graduate School of Medicine, Sendai, Japan[2)], Laboratory of Molecular Cell Biology, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Toyama, Japan[3)]

1-G-WS11-11-O/P

Ferulic acid, a dietary polyphenol inhibits interleukin 17 mediated rheumatoid arthritis pathogenesis via the regulation of IL-17/IL-17RA/STAT-3 signaling cascade

Mahaboobkhan Rasool, Ramamoorthi Ganesan

School of Bio Sciences and Technology, Vellore Institute of Technology (VIT), Vellore-632014, India

1-G-WS11-12-O/P

Tannic acid affects dopamine receptors, regulates immune responses, and ameliorates experimentally induced colitis

Masaaki Kawano[1)], Kikue Saika[1)], Rie Takagi[1)], Masanori Matsui[2)], Sho Matsushita[1,3)]

Department of Allergy and Immunology, Faculty of Medicine, Saitama Medical University, Saitama, Japan[1)], Department of Microbiology, Faculty of Medicine, Saitama Medical University, Saitama, Japan[2)], Allergy Center, Saitama Medical University, Saitama, Japan[3)]

1-G-WS11-15-O/P

Adipose tissue-derived stromal/stem cells suppressed the hepatic stellate cell proliferation stimulated by hepatic inflammatory cell and IL-17A in murine non-alcoholic steatohepatitis

Masatoshi Yamato[1)], Yoshio Sakai[1)], Alessandro Nasti[1)], Shuichi Kaneko[1)]

Gastroenterology, Kanazawa university, Ishikawa, Japan[1)], Nephrology, Kanazawa University, Ishikawa, Japan[2)]

1-G-WS11-16-O/P

Chronic interferon-gamma signals impair memory CD8 T cell maintenance

Ruka Setoguchi[1)], Tadashi Yamamoto[1)], Shohei Hori[2)]

Laboratory for Immunogenetics, RIKEN Center for Integrative Medical Sciences, Yokohama, Japan[1)], Laboratory of Immunology and Microbiology, Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan[2)]

WS-12 Cytokines and chemokines-2

15:20 ~ 16:40 Room G

Chairpersons: Masato Kubo, Takashi Kobayashi

Cytokines and chemokines are not only involved in immune reactions, including innate and adaptive immunity, but also key regulator that is required for maintaining the homeostasis of many biological aspect. Indeed, dynamic interplay between cytokine/chemokine and their responding cells are essential system to connect central and multiple local systems for maintaining homeostasis of biological reaction in our body, and dysregulation of the homeostatic mechanism and of their interplay often lead to the onset of various diseases. In this session, we would like to discuss about how cytokines/chemokines and their signaling pathway control protective immunity and recruitment of immune cells during virus, bacterial and parasite infections and cancer development. We also discuss about biological actions of cytokines/chemokines in angiogenesis and in immune cells, including neutrophil, macrophage, Innate lymphoid cells, and memory T cells.

1-G-WS12-1-O/P

Hydroxypropyl-β-cyclodexrin (HP-β-CD) act as IL-33-indusible adjuvant in intranasal administration

Takato Kusakabe[1,2], Shingo Kobari[1], Etsushi Kuroda[1,2], Ken Ishii[1,2]

Laboratory of Adjuvant Innovation, Center for Vaccine and Adjuvant Research(CVAR), National Institutes of Biomedical Innovation, Health and Nutrition(NIBIOHN), Osaka, Japan[1], Vaccine Science, Immunology Frontier Research Center(IFReC), Osaka University, Osaka, Japan[2]

1-G-WS12-2-O/P

Role of group 2 innate lymphoid cells in angiogenesis

Hiroe Tetsu[1,2], Kazuyo Moro[1,2]

RIKEN, IMS, Laboratory Innate Immune Systems, Yokohama, Japan[1], Department of Medical Life science, Yokohama City University, Yokohama, Japan[2]

1-G-WS12-3-O/P

A division of labour for the type I interferon and apoptosis induction after viral infection

Tomohiko Okazaki

Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan

1-G-WS12-6-O/P

RSV induces suppressive Gas6/Axl signaling in macrophages increasing susceptibility to secondary *S. pneumoniae* infection

Takehiko Shibata[1], Toshihiro Ito[2], Yoshimasa Takahashi[1], Manabu Ato[1,3]

Department of Immunology, National Institute of Infectious Diseases, Tokyo, Japan[1], Department of Immunology, Nara Medical University, Nara, Japan[2], Department of Mycobacteriology, National Institute of Infectious Diseases, Tokyo, Japan[3]

1-G-WS12-7-O/P

Loss of memory CD4$^+$ T-cells mediated by IL-27 during malaria infection

DAISUKE KIMURA[1,2], Mana Miyakoda[1], Sayuri Nakamae[1], Odsuren Sukhbaatar[1], Ganchimeg Bayarsaikhan[1], Kazumi Kimura[1], Daniel Fernandez-Ruiz[3], William Heath[3], Hiromitsu Hara[4], Hiroki Yoshida[5], Katsuyuki Yui[1]

Division of Immunology, Department of Molecular Microbiology and Immunology, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan[1], Department of Health, Sports, and Nutrition, Faculty of Health and Welfare, Kobe Women's University, Kobe, Japan[2], Department of Microbiology and Immunology, The Peter Doherty Institute, The University of Melbourne, Melbourne, Australia[3], Department of Immunology, Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima, Japan[4], Department of Biomolecular Sciences, Faculty of Medicine, Saga University, Saga, Japan[5]

1-G-WS12-8-O/P

An effector IRG is a critical factor mediating interferon-γ-induced ubiquitin decoration of *Toxoplasma gondii* parasitophorous vacuoles

Youngae LEE[1,2], Naoya Sakaguchi[1,2], Hironori Bando[1,2], Miwa Sasai[1,2], Ariel Pradipta[1,2], Masahiro Yamamoto[1,2]

Laboratory of Immunoparasitology, WPI Immunology Frontier Research Center, Osaka University, Osaka, Japan[1], Department of Immunoparasitology, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[2]

1-G-WS12-9-O/P

Noncanonical Pathway for Regulation of CCL2 Expression by an mTORC1-FOXK1 Axis Promotes Recruitment of Tumor-Associated Macrophages

Hirokazu Nakatsumi

Department of Molecular Biology, Pharmaceutical Sciences, Nagoya City Universit, Nagoya, Japan

1-G-WS12-12-O/P

Involvement of prokineticin 2-expressing neutrophil infiltration in 5-fluorouracil-induced aggravation of breast cancer metastasis to lung

Naofumi Mukaida, So-ichiro Sasaki, Tomohisa Baba

Division of Molecular Bioregulation, Kanazawa University, Cancer Research Institute, Kanazawa, Japan

WS-13 Helper T cells

13:40 ~ 15:00 Room H

Chairpersons: Motoko Y. Kimura, Shunsuke Chikuma

Helper T (Th) cells play central role in adaptive immunity to combat invading pathogens by orchestrating other effector cells; whereas, excessive activation of Th cells results in hypersensitivity such as allergy and autoimmune inflammatory diseases. In this workshop, we aim to share the most recent understanding of mechanisms underlying Th cell differentiation and functions. The selected topics include; (1) the mechanisms on physiologic and pathogenic Th cell differentiation and effector functions (Nakatsukasa, Tsukasaki, Yasuda, Tanaka (M), Tanaka (K), Sekiya), (2) the mechanism of exclusive differentiation between Th1 and Th2 cells (Yagi) (3) a novel Th subset (Takahashi, Tajima). We hope that all participants enjoy discussing cutting-edge topics in this field.

1-H-WS13-1-O/P

Tet2 and Tet3 regulate helper T cell differentiation in the periphery

Hiroko Nakatsukasa, Akihiko Yoshimura

Department of Microbiology and Immunology, Keio University School of Medicine, Tokyo, Japan

1-H-WS13-4-O/P

Host defense against oral bacteria by bone-damaging T cells

Masayuki Tsukasaki[1,2], Noriko Komatsu[1], Warunee Pluemsakunthai[1], Hiroshi Takayanagi[1]

Department of Immunology, Graduate School of Medicine and Faculty of Medicine, The University of Tokyo, Tokyo, Japan[1], Department of Bacterial Infection and Host Response, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Tokyo, Japan[2]

1-H-WS13-5-O/P

Satb1-mediated regulation of GM-CSF and PD-1 in effector Th17 cells in experimental autoimmune encephalomyelitis

Keiko Yasuda[1,2], Yohko Kitagawa[1,2], Ryoji Kawakami[2], Hitomi Watanabe[3], Gen Kondoh[3], Terumi Kohwi-Shigematsu[4], Shimon Sakaguchi[1,2], Keiji Hirota[2,3]

Laboratory of Experimental Immunology, Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan[1], Laboratory of Experimental Immunology, Immunology Frontier Research Center, Osaka University, Osaka, Japan[2], Laboratory of Integrative Biological Science, Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan[3], Department of Orofacial Sciences, University of California, San Francisco, U.S.A.[4]

1-H-WS13-6-O/P

Regulation of pathogenic T helper 17 cell differentiation by steroid receptor coactivator-3

Kentaro TANAKA[1], Chen Dong[2]

Research Institute for Diseases of the Chest, Kyushu University, Fukuoka, Japan[1], Institute for Immunology and School of Medicine, Tsinghua University, Beijing, China[2]

1-H-WS13-11-O/P

Super enhancer driving IL-22-related genes and its genetic link to autoimmune diseases

Masao Tanaka[1], Yuka Kanno[2], Massimo Gadina[3], John O'Shea[2]

Department of Advanced Medicine for Rheumatic Diseases, Kyoto University Graduate School of Medicine, Kyoto, Japan[1], Molecular Immunology and Inflammation Branch, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institute of Health, Bethesda, USA[2], Translational Immunology Section, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institute of Health, Bethesda, USA[3]

1-H-WS13-12-O/P

Roles of the nuclear orphan receptor Nr4a in Th/Treg differentiation and in regulation of allergic asthma pathogenesis

Takashi Sekiya[1], Satoshi Takaki[2], Akihiko Yoshimura[3]

Section of Immune Response Modification, Department of Immune Regulation, National Center for Global Health and Medicine, Chiba, Japan[1], Department of Immune Regulation, National Center for Global Health and Medicine, Chiba, Japan[2], Department of Microbiology and Immunology, Keio University School of Medicine, Tokyo, Japan[3]

1-H-WS13-14-O/P

Molecular mechanism for IFNγ-mediated inhibition of Th2 cell proliferation

Ryoji Yagi[1], Murshed Sarkar[1], Motoko Kimura[2], Toshinori Nakayama[1]

Department of Immunology, Graduate School of Medicine, Chiba University, Chiba, Japan[1], Department of Medical Immunology, Graduate School of Medicine, Chiba University, Chiba, Japan[2]

1-H-WS13-15-O/P

Cholesterol 25-hydroxylase expressing $CD4^+$ T cell regulates tissue inflammation

Hayato Takahashi[1], Hisashi Nomura[1], Hisato Iriki[1], Akiko Kubo[2], Miho Mukai[1], Takashi Sasaki[3], Yohei Mikami[4,5], Yuka Kanno[5], John O'Shea[5], Masayuki Amagai[1]

Dermatology, Keio University, Tokyo, Japan[1], Biochemistry, Keio University, Tokyo, Japan[2], CSMR, Keio University, Tokyo, Japan[3], Gastroenterology, Keio University, Tokyo, Japan[4], NIASM, NIH, Bethesda, USA[5]

1-H-WS13-17-O/P

IL-10-Producing Tr2 cells Induced by GATA3 / CREB / CEBPβ Signaling are Strongly Regulated by COX2-PGE_2 Axis

Masaki Tajima[1,2], Warren Strober[2]

Laboratory of Immunology, Department of Immunology, Foundation for Biomedical Research and Innovation at Kobe, Kobe, Japan[1], Mucosal Immunity Section, Laboratory of Clinical Immunology and Microbiology, NIAID/NIH, Bethesda, MD, USA[2]

December 11

WS-14 T cells-1: T cell response and function

15:20 ~ 16:40 Room A

Chairpersons: Motonari Kondo, Koji Yasutomo

T cells are central players in adaptive immunity together with B cells. After activation by antigen presenting cells in the secondary lymphoid organs, naïve T cells, which home to the secondary lymphoid organs from blood stream, differentiate into effector and/or memory T cells to protect hosts from pathogens. To understand regulatory mechanisms of T cell function, knowledge on cell intrinsic and extrinsic factors, which may affect to T cell fate, is essential. In this session, 10 topics will provide us with new insights into regulation of T cell activation and function. Participation in active discussion is welcomed.

2-A-WS14-1-O/P

Rap1 regulates active conformation of $\alpha 4\beta 7$ and affinity for MadCAM-1

Tsuyoshi Sato[1)], Sayaka Ishihara[1)], Ryoya Marui[1)], Akihiko Nishikimi[1)], Junichi Takagi[2)], Koko Katagiri[1)]

Department of Biosciences, Kitasato University School of Science, Kanagawa, Japan[1)], Institute for Protein Research, Osaka University, Osaka, Japan[2)]

2-A-WS14-2-O/P

W747 talin1 binding site in cytoplasmic domain of the integrin beta2 subunit is crucial for T cell migration and activation

Yoshihiro Ueda, Naoyuki Kondo, Yuji Kamioka, Tatsuo Kinashi

Molecular Genetics, Institute of Biomedical Science, Kansai Medical University, Osaka, Japan

2-A-WS14-3-O/P

Phosphatidic acid-dependent translocation and de-phosphorylation of Rap1GEF control T cell movement

Yasuyuki Momoi, Sayaka Ishihara, Akihiko Nishikimi, Tsuyoshi Sato, Koko Katagiri

Immunology, Department of Biosciences, Kitasato university, school of science, Kanagawa, Japan

2-A-WS14-4-O/P

Roles of Rap1, Talin-1 and Kindlin-3 in lymphocyte homing to peripheral and mucosal lymph nodes

Yuji Kamioka, Yoshihiro Ueda, Naoyuki Kondo, Tatsuo Kinashi

Department of Molecular Genetics, Institute of Biomedical Science, Kansai Medical University, Osaka, Japan

2-A-WS14-5-O/P

Pyruvate dehydrogenase phosphatase catalytic subunit 2 limits Th17 differentiation

Michihito Kono[1,2)], Nobuya Yoshida[2)], Kayaho Maeda[2)], Nicole E. Skinner[2)], Wenliang Pan[2)], Vasileios C. Kyttaris[2)], Maria G. Tsokos[2)], George C. Tsokos[2)]

Department of Rheumatology, Endocrinology and Nephrology, Faculty of Medicine and Graduate School of Medicine, Hokkaido University, Sapporo, Japan[1)], Division of Rheumatology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, USA[2)]

2-A-WS14-7-O/P

T-follicular regulatory cells in human blood

James B Wing[1)], Shimon Sakaguchi[1,2)]

IFReC, Osaka University, Osaka, Japan[1)], Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan[2)]

2-A-WS14-9-O/P

Regulation of T cell response by TCR-like antibodies

Kazuki Kishida[1)], Masako Kohyama[1,2)], Tadahiro Suenaga[1,2)], Hisashi Arase[1,2)]

Department of Immunochemistry, Research Institute for Microbial Diseases, Osaka university, Tokyo, Japan[1)], Immunochemistry, Immunology Frontier Research Center, Osaka university, Osaka, Japan[2)]

2-A-WS14-11-O/P

Sox4 facilitates CXCL13 production by human $CD4^+$ T cells under inflammatory conditions

Hiroyuki Yoshitomi[1,2,5)], Akinori Okahata[5)], Kohei Doi[5)], Hiromu Ito[5)], Tatsuaki Tsuruyama[7)], Hironori Haga[4)], Shuichi Matsuda[5)], Junya Toguchida[1,2,5)]

Department of Regeneration Science and Engineering, Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan[1)], Department of Cell Growth and Differentiation, Center for iPS Cell Research and Application, Kyoto University, Kyoto, Japan[2)], Joslin Diabetes Center, Boston, USA[3)], Department of Diagnostic Pathology, Kyoto University Hospital, Kyoto, Japan[4)], Department of Orthopaedic Surgery, Kyoto University Graduate School of Medicine, Kyoto, Japan[5)], Department of the Control for Rheumatic Diseases, Kyoto University Graduate School of Medicine, Kyoto, Japan[6)], Department of Drug Discovery Medicine, Kyoto University Graduate School of Medicine, Kyoto, Japan[7)]

2-A-WS14-17-O/P

Development and function of a unique bone marrow-resident CD4/CD8 double-negative αβT cell subset

Ryusuke Yamamoto[1,2], Akifumi Takaori-Kondo[2], Nagahiro Minato[1]

DSK project, Medical Innovation Center, Graduate School of Medicine, Kyoto University, Kyoto, Japan[1], Department of Hematology and Oncology, Graduate School of Medicine, Kyoto University, Kyoto, Japan[2]

2-A-WS14-19-O/P

Antigen presentation by pulmonary macrophages drives the establishment of lung-resident CD8 T cell memory

Shiki Takamura[1], Paul R Dunbar[2], Emily K Cartwright[2], Alexander N Wein[2], Tetsuo Tsukamoto[1], Zheng-Rong Tiger Li[2], Nivedha Kumar[2], Ida Uddbäck[3], Sarah L Hawyard[2], Satoshi Ueha[4], Jacob E Kohlmeier[2]

Department of Immunology, Faculty of Medicine, Kindai University Faculty of Medicine, Osaka, Japan[1], Department of Microbiology and Immunology, Emory University School of Medicine, GA, USA[2], Department of Microbiology and Immunology, University of Copenhagen, Copenhagen, Denmark[3], Division of Molecular Regulation of Inflammatory and Immune Diseases, Research Institute for Biomedical Sciences, Tokyo University of Science, Chiba, Japan[4]

WS-15 Virus infection

15:20 ~ 16:40 Room B

Chairpersons: Taro Kawai, Mitsutoshi Yoneyama

Viruses cause a variety of infectious diseases. They are infectious particles carrying essential genetic codes in their genomic DNA or RNA and replicate only inside living host cells by using their biological machinery. Thus, to protect against viral infectious diseases, it is essential to understand the pathogenicity of each virus, host immune responses against infection, and the interplay between them. In this session, we will focus on virus-host interactions specially focusing on infections caused by herpes, influenza, dengue, and immunodeficiency viruses. We will also discuss the development of new therapeutic targets against viral infectious diseases. The presentation and discussion will be for 8 and 2 min, respectively.

2-B-WS15-2-O/P

ZBP1 governs neutrophil-mediated inflammation in influenza virus infection via IL-1α

Masatoshi Momota[1,2], Patrick Lelliot[3], Takato Kusakabe[1,2], Atsuko Kubo[1,2], Etsushi Kuroda[1,2], Cevayir Coban[3], Ken. J Ishii[1,2]

Laboratory of Adjuvant Innovation, National Institutes of Biomedical Innovation, Health and Nutrition, Osaka, Japan[1], Laboratory of Vaccine Science, Immunology Frontier Research Center, Osaka University, Osaka, Japan[2], Malaria immunology, Immunology Frontier Research Center, Osaka University, Osaka, Japan[3]

2-B-WS15-7-O/P

In vivo imaging of the pathophysiological changes and dynamics of immune cells in influenza virus-infected mouse lung

Hiroshi Ueki[1], Satoshi Fukuyama[1], Gabriele Neumann[3], Yoshihiro Kawaoka[1,2,3]

Division of Virology, Institute of Medical Science, University of Tokyo, Tokyo, Japan[1], Department of Special Pathogens, Institute of Medical Science, University of Tokyo, Tokyo, Japan[2], Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin-Madison, Tokyo, Japan[3]

2-B-WS15-8-O/P

Adjuvant effect of a nanoparticulate TLR9 agonist for protection against heterologous influenza challenge through FcRγ-mediated effector functions

Takuya Yamamoto[1], Yuji Masuta[2], Masatoshi Momota[2], Yoshimasa Takahashi[3], Ken J. Ishii[2]

Laboratory of Immunosenescence, National Institutes of Biomedical Innovation, Health and Nutrition, Osaka, Japan[1], Laboratory of Adjuvant Innovation, Center for Vaccine and Adjuvant Research, National Institutes of Biomedical Innovation, Health and Nutrition, Osaka, Japan[2], Department of Immunology, National Institute of Infectious Diseases, Tokyo, Japan[3]

2-B-WS15-10-O/P

iPS cells serves as a source of dendritic cells for *in vitro* dengue virus infection model

Shusaku Mizukami[1,2], Dao H Manh[1,3], Shyam P Dumre[1], Muhareva Raekiansyah[4], Satoru Senju[5], Yasuharu Nishimura[5], Juntra Karbwang[4], Nguyen T Huy[2], Kouichi Morita[4], Kenji Hirayama[1]

Department of Immunogenetics, Institute of tropical medicine (NEKKEN), Nagasaki University, Nagasaki, Japan[1], Department of Clinical Product Development, Institute of tropical medicine (NEKKEN), Nagasaki University, Nagasaki, Japan[2], Global Leader Nurturing Program, Graduate School of Biomedical science, Nagasaki University, Nagasaki, Japan[3], Department of Virology, Institute of tropical medicine (NEKKEN), Nagasaki University, Nagasaki, Japan[4], Department of Immunogenetics, Kumamoto University Graduate School of Medical Sciences, Kumamoto, Japan[5]

2-B-WS15-12-O/P

Identification of a novel anti-viral protein essential for innate immune reseponses

Saeko Aoyama-Ishiwatari, Tomohiko Okazaki

Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan

2-B-WS15-15-O/P

HIV-1 Nef, in cooperation with Hematopoietic cell kinase (Hck), augmented the interaction between SERINC5 and SERINC3, towards the increase of intrinsic infectivity of HIV-1 particles

Eiji SHINYA, Atsuko OWAKI, Masumi SHIMIZU, Jiro MATSUMURA, Sadayuki OKURA, Hidemi TAKAHASHI

Department of Microbiology and Immunology, Nippon Medical School, Tokyo, Japan

2-B-WS15-16-O/P

STING ligand re-activates latently SIV infected cells and enhances SIV-specific CTL responses

Tomohiro Kanuma[1,2], Shokichi Takahama[1], Tomotaka Okamura[2], Yasuhiro Yasutomi[2], Takuya Yamamoto[1]

Laboratory of Immunosenescence, National Institutes of Biomedical Innovation, Health and Nutrition, Osaka, Japan[1], Tsukubai primate research center, National Institutes of Biomedical Innovation, Health and Nutrition, Ibaraki, Japan[2]

2-B-WS15-19-O/P

Combating herpesvirus encephalitis by potentiating a TLR3-mTORC2 axis

Ryota Sato[1)], Akihisa Kato[2)], Takahiko Chimura[3)], Shin-Ichiroh Saitoh[1)], Takuma Shibata[1)], Ryutaro Fukui[1)], Yusuke Murakami[1)], Kaiwen Liu[1)], Yun Zhang[1)], Toshiya Manabe[3)], Yasushi Kawaguchi[1,2)], Kensuke Miyake[1)]

Division of Innate Immunity, Department of Microbiology and Immunology, The Insitute of Medical Science, The University of Tokyo, Tokyo, Japan[1)], Division of Innate Immunity, Department of Microbiology and Immunology, The Insitute of Medical Science, The University of Tokyo, Tokyo, Japan[2)], Division of Neuronal Network, Department of Basic Medical Sciences, The Insitute of Medical Science, The University of Tokyo, Tokyo, Japan[3)]

WS-16 Tolerance and Immune suppression-1: Treg cells and tolerance 15:20 ~ 16:40 Room C

Chairpersons: Takashi Sekiya, Noriko Komatsu

Maintenance of immune tolerance is primarily accomplished by the specialized cell subsets, 'regulatory T (Treg)' cells. Profound understanding of Treg-associated events promise successful outcomes in the Treg cell-based therapies, that are expected to be applied to various sorts of immune-related diseases in near future. This session comprises works which advance our understanding of Treg cell-mediated immune tolerance in various aspects: Some works identify key factors or mechanisms in differentiation, maintenance, and function of Treg cells. Some of the other studies investigate disease models and reveal how Treg cells differentiate and exert their suppressive activities against aberrant immune reactions. We encourage all participants for active discussion.

2-C-WS16-1-O/P

Role of Jazf1 gene in regulatory T cells

Masanori Kono[1)], Tomohisa Okamura[1,2,3)], Toshihiko Komai[1)], Mariko Inoue[1)], Yukiko Iwasaki[1)], Shuji Sumitomo[1)], Hirofumi Shoda[1)], Kazuhiko Yamamoto[1,3,4)], Keishi Fujio[1)]

Department of Allergy and Rheumatology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[1)], Department of Functional Genomics and Immunological Diseases, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[2)], Max Planck-The University of Tokyo Center for Integrative Inflammology, Tokyo, Japan[3)], Laboratory for Autoimmune Diseases, Center for Integrative Medical Sciences, RIKEN, Kanagawa, Japan[4)]

2-C-WS16-4-O/P

TCR-mediated Sox12 induction promotes peripherally induced Treg cell differentiation under inflammatory conditions

Shigeru Tanaka, Akira Suto, Takahiro Kageyama, Tomohiro Tamachi, Kotaro Suzuki, Koichi Hirose, Hiroshi Nakajima

Allergy and Clinical Immunology, Chiba University Graduate School of Medicine, Chiba, Japan

2-C-WS16-7-O/P

Strong TCR stimulation promotes the stabilization of Foxp3 expression in regulatory T cells induced *in vitro* through increasing the demethylation of *Foxp3* CNS2

Ei Wakamatsu[1,2)], Shuhei Ogawa[2)], Tadashi Yokosuka[1)], Ryo Abe[1)]

Department of Immunology, Tokyo Medical University, Tokyo, Japan[1)], Tokyo University of Science, Noda, Japan[2)]

2-C-WS16-10-O/P

The transcription factor BATF functionally cooperates with Foxp3 to control effector program in regulatory T cells

Ryuichi Murakami[1)], Wataru Ise[3)], Tomohiro Kurosaki[2,3)], Shohei Hori[1,2)]

Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan[1)], RIKEN Center for Integrative Medical Sciences, Kanagawa, Japan[2)], WPI Immunology Frontier Research Center, Osaka University, Osaka, Japan[3)]

2-C-WS16-13-O/P

Transcription factor JunB is essential for effector regulatory T cell homeostasis and function

Shin-ichi Koizumi, Hiroki Ishikawa

Immune Signal Unit, Okinawa Institute of Science and Technology Graduate University, Onna-son, Japan

2-C-WS16-14-O/P

DNAM-1 regulates the Foxp3 stability of regulatory T cells under inflammatory conditions

Kazuki Sato[1,2)], Yumi Yamashita-Kanemaru[1)], Fumie Abe[1,2)], Yuho Nakamura[1,3)], Rikito Murata[1,4)], Mamoru Ito[5)], Akira Shibuya[1,2)], Kazuko Shibuya[1)]

Department of Immunology, Faculty of Medicine, University of Tsukuba, Ibaraki, Japan[1)], Life Science Center for survival dynamics, Tsukuba Advanced Research Alliance (TARA), University of Tsukuba, Ibaraki, Japan[2)], Graduate School of Comprehensive Human Sciences, University of Tsukuba, Ibaraki, Japan[3)], Ph.D. Program in Human Biology, University of Tsukuba, Ibaraki, Japan[4)], Central Institute for Experimental Animals, Kanagawa, Japan[5)]

WS-17 Systemic autoimmune diseases-3

15:20 ~ 16:40 Room D

Chairpersons: Manabu Fujimoto, Masayuki Nishide

Systemic autoimmune diseases are a heterogenous group of immune-mediated multi-organ inflammatory disorders, which include systemic erythematosus, rheumatoid arthritis, systemic sclerosis, dermatomyositis, polymyositis and vasculitis. These autoimmune diseases are pathologically characterized by the presence of immune complexes, the activation of autoreactive lymphocytes, and the overproduction of autoantibodies, which cause inflammation in various organs. To explore new treatments that can be tailored to the severity of each individual's condition, immunophenotyping and comprehensive omics approaches may help to shed light on complex pathogenic mechanisms. In this session, recent advances in research on human autoimmune diseases and animal models using these approaches will be discussed. We hope that all participants have an active discussion in both oral and poster presentation and that this session will provide insights into the underlying diseases mechanisms.

2-D-WS17-1-O/P

Development and activation of B cells expressing germline precursor of SLE-derived high-affinity anti-DNA antibody in knock-in mice

Marwa Ali El Hussien, Shuhei Sakakibara, Chao-Yuan Tsai, Hitoshi Kikutani

Immune Regulation, Immunology Frontier Research Center, Osaka University, Suita, Japan

2-D-WS17-2-O/P

Expansion of TLR7 expressing monocyte derived cells in imiquimod-induced lupus model

Atsushi Nomura, Daisuke Noto, Goh Murayama, Asako Chiba, Sachiko Miyake

Department of Imuunology, Juntendo University School of Medicine, Tokyo, Japan

2-D-WS17-3-O/P

IRF5 as a potent target beyond type I interferons for the next stage SLE therapy

Masako Kikuchi[1)], Tatsuma Ban[1)], Go R Sato[1)], Akio Manabe[1)], Ryusuke Yoshimi[2)], Hideyuki Yanai[3)], Tadatsugu Taniguchi[3)], Shuichi Ito[4)], Tomohiko Tamura[1)]

Department of Immunology, Yokohama City University Graduate School of Medicine, Yokohama, Japan[1)], Department of Stem Cell and Immune Regulation, Yokohama City University Graduate School of Medicine, Yokohama, Japan[2)], Department of Molecular Immunology, Institute of Industrial Science, The University of Tokyo, Tokyo, Japan[3)], Department of Pediatrics, Yokohama City University Graduate School of Medicine, Yokohama, Japan[4)]

2-D-WS17-4-O/P

Peptidylarginine deiminase 4 deficiency ameliorated murine model of lupus via reduction of neutrophil migration to kidney

Norio Hanata[1)], Hirofumi Shoda[1)], Hiroaki Hatano[1)], Yasuo Nagafuchi[1)], Toshihiko Komai[1)], Tomohisa Okamura[1)], Kazuhiko Yamamoto[2)], Keishi Fujio[1)]

Department of Allergy and Rheumatology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[1)], Laboratory for Autoimmune Diseases, RIKEN Center for Integrative Medical Sciences, Yokohama, Japan[2)]

2-D-WS17-5-O/P

Cholesterol accumulation in CD11c+ immune cells is a causal and targetable factor in autoimmune disease

Ayaka Ito[1,2)], Cynthia Hong[2)], Kazuhiro Oka[6)], Cody Diehl[5)], Joseph L. Witztum[5)], Mercedes Diaz[4)], Antonio Castrillo[4)], Steven J. Bensinger[3)], Lawrence Chan[6)], Peter Tontonoz[2)], Takayoshi Suganami[1)]

Department of Molecular Medicine and Metabolism, Research Institute of Environmental Medicine, Nagoya University, Nagoya, Japan[1)], Department of Pathology and Laboratory Medicine, University of California, Los Angeles, Los Angeles, USA[2)], Department of Microbiology, Immunology and Molecular Genetics, University of California, Los Angeles, Los Angeles, USA[3)], Instituto de Investigaciones Biomédicas "Alberto Sols" Madrid, Madrid, Spain[4)], Department of Medicine, University of California, San Diego, San Diego, USA[5)], Departments of Medicine, Molecular & Cellular Biology and Biochemistry, Baylor College of Medicine, Houston, USA[6)]

2-D-WS17-6-O/P

Roles of CD72 in the regulation of autoantibody production and type 1 interferon production in autoimmune disease

Chizuru Akatsu[1)], Quan-Zhen Li[2)], Takeshi Tsubata[1)]

Medical Research Institute, Department of Immunology, Tokyo Medical and Dental University, Tokyo, Japan[1)], Department of Immunology and Internal Medicine, UT Southwestern Medical Center, Dallas, USA[2)]

2-D-WS17-7-O/P

Analysis of suppressive ability and its mechanisms of rice seeds expressing altered peptide ligands against M3R induced sialadenitis

Hanae Kudo, Hiroto Tsuboi, Hiromitsu Asashima, Hiroyuki Takahashi, Fumika Honda, Yuko Ono, Saori Abe, Yuya Kondo, Isao Matsumoto, Takayuki Sumida

Department of Internal Medicine, Faculty of Medicine, University of Tsukuba, Ibaraki, Japan

WS-18 Cancer immunotherapy-1

15:20 ~ 16:40 Room E

Chairpersons: Koji Tamada, Shin-ichiro Fujii

In this WS, recent progress of research and development in the field of effector cell-based immunothrapy will be presented. In particular, studies associated with gene-modified immune cells including CAR-T and TCR-T cells, as well as iPS-derived cells, will be discussed.

2-E-WS18-1-O/P

The activated conformation of integrin β7 is a novel multiple myeloma–specific target for CAR T cell therapy

Kana Hasegawa[1)], Naoki Hosen[1)], Haruo Sugiyama[2)], Atsushi Kumanogoh[3)]

Department of Cancer Stem Cell Biology, Osaka University Graduate School of Medicine, Suita, Japan[1)], Department of Cancer Immunology, Osaka University Graduate School of Medicine, Suita, Japan[2)], Department of Respiratory Medicine and Clinical Immunology, Osaka University Graduate School of Medicine, Suita, Japan[3)]

2-E-WS18-2-O/P

Anti - glypican-1 (GPC-1) - CAR-T cells can completely eradicate established solid tumor without adverse effects

Daiki Kato[1,3)], Tomonori Yaguchi[1)], Kenji Morii[1)], Satoshi Serada[2)], Tetsuji Naka[2)], Takayuki Nakagawa[3)], Ryohei Nishimura[2)], Yutaka Kawakami[1)]

Division of Cellular Signaling, Institute for Advanced Medical Research, Keio University School of Medicine, Tokyo, Japan[1)], Laboratory of Immune Signal, National Institute of Biomedical Innovation, Osaka, Japan[2)], Laboratory of Veterinary Surgery, Graduate school of agricultural and life sciences, The University of Tokyo, Tokyo, Japan[3)]

2-E-WS18-3-O/P

Generation of CAR T- cells recognizing malignant mesothelioma specific antigen

Taku Kouro[1)], Erica Yada[1)], Mamoru Kawahara[1)], Kohzoh Imai[2,3)], Tetsuro Sasada[1)]

Division of Cancer Immunotherapy, Kanagawa Cancer Center Research Institute, Yokohama, Japan[1)], Kanagawa Cancer Center Research Institute, Yokohama, Japan[2)], The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[3)]

2-E-WS18-4-O/P

Aryl hydrocarbon receptor inhibition generates long-surviving memory T cells for optimal adoptive immunotherapy

Yuki Kagoya[1,2)], Mineo Kurokawa[1)], Naoto Hirano[2)]

Department of Hematology and Oncology, Graduate School of Medicine, the University of Tokyo, Tokyo, Japan[1)], Tumor Immunotherapy Program, Princess Margaret Cancer Centre, Toronto, Canada[2)]

2-E-WS18-5-O/P

Metabolic Reprogramming requires Stem Cell Memory T Cells phenotypes for Adoptive Immunotherapy

Taisuke Kondo, Akihiko Yoshimura

Department of Microbiology and Immunology, Keio University School of Medicine, Tokyo, Japan

2-E-WS18-9-O/P

iPSC-derived T cells exhibit superior effector functionality with rejuvenated phenotype compared to parental T-cell clones

Yohei Kawai, Shin Kaneko

Center for iPS Cell Research and Application, Kyoto University, Kyoto, Japan

2-E-WS18-10-O/P

Generation of CTLs from iPSCs transduced with TCR genes: toward the development of "off-the-shelf T cells"

Seiji Nagano[1,2)], Soki Kashima[1)], Shun Kumehara[1)], Kyoko Masuda[1)], Hiroshi Kawamoto[1)]

Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan[1)], Department of Hematology and Oncology, Kyoto University, Kyoto, Japan[2)]

2-E-WS18-11-O/P

Therapy of metastatic colon cancer by allogeneic MHC-deficient and interferon-producing myeloid cells derived from mouse embryonic stem cells

Satoshi Umemoto[1)], Miwa Haruta[1)], Tokunori Ikeda[2)], Hirotake Tsukamoto[3)], Yoshihiro Komohara[4)], Motohiro Takeya[4)], Yasuharu Nishimura[1,5)], Satoru Senju[1)]

Department of immunogenics, Graduate School of Medical Sciences, Kumamoto University, Kumamoto, Japan[1)], Department of Clinical Investigation, Kumamoto Univercity Hospital, Kumamoto, Japan[2)], Department of Immunology, Graduate School of Medical Sciences, Kumamoto University, Kumamoto, Japan[3)], Department of Cell Pathology, Graduate School of Medical Sciences, Kumamoto University, Kumamoto, Japan[4)], Nishimura Project Laboratory, Institute of Resource Development and Analysis, Kumamoto University, Kumamoto, Japan[5)]

WS-19 Mucosal-Skin Immunity-1

15:20 ~ 16:40 Room F

Chairpersons: Noriko M Tsuji, Tetsuya Honda

The skin and mucosal tissue such as nasal, lung, and intestine, forms distinctive barrier structure to separate our body from the outside world and yet interrelates various environmental factors to maintain homeostasis. Namely, the barrier structure comprises of not only a mechanical blockade to avoid the entry of harmful substances or water loss from the body, but also a sophisticated immunological barrier to provide the defense against infections or foreign antigens. Recent studies have also shown that stimuli from symbiotic/infections microorganisms play a crucial role for the maintenance of these barrier functions. In this workshop, we firstly aim to understand the molecular mechanisms for the development and homeostasis of skin epidermis in relation to an inflammatory situation. Secondly, we will discuss and evaluate environmental factors in vaccines, cosmetics, or gut-microbiota, in terms of modulating immune responses as adjuvants.

2-F-WS19-1-O/P

Dectin-2-mediated signaling leads to delayed skin wound healing through enhanced neutrophilic inflammatory response and NETosis

Emi Kanno[1)], Hiromasa Tanno[1)], Ayako Sasaki[2)], Keiko Ishii[3)], Shinobu Saijo[4)], Yoichiro Iwakura[5)], Kazuyoshi Kawakami[3)]

Department of Science of Nursing Practice, Tohoku University Graduate School of Medicine, Sendai, Japan[1)], Department of Plastic and Reconstructive Surgery, Tohoku University Graduate School of Medicine, Sendai, Japan[2)], Department of Medical Microbiology, Mycology and Immunology, Tohoku University Graduate School of Medicine, Sendai, Japan[3)], Department of Molecular Immunology, Medical Mycology Research Center, Chiba University, Chiba, Japan[4)], Division of Laboratory Animals, Research Institute for Biomedical Sciences, Tokyo University of Science, Chiba, Japan[5)]

2-F-WS19-2-O/P

Blockade of TNFR1-dependent and -independent cell death is crucial for normal epidermal differentiation

Ryosuke Miura[1,2)], Xuehua Piao[2)], Chiharu Nishiyama[1)], Hiroyasu Nakano[2)]

Tokyo University of Science, Tokyo, Japan[1)], Toho Univercity School of Medicine, Tokyo, Japan[2)]

2-F-WS19-3-O/P

Isoform-specific functions of dermokine in imiquimod-induced psoriasiform dermatitis: a structural sequalae of impaired epidermal differentiation

Akira Utsunomiya, Takenao Chino, Noritaka Oyama, Vu Huy Luong, Minoru Hasegawa

Medical Sciences, Dermatology, Fukui university, Fukui, Japan

2-F-WS19-13-O/P

Immunological association of inducible bronchus-associated lymphoid tissue organogenesis in Ag85B-rHPIV2 vaccine-induced anti-tuberculosis mucosal immune responses in mice

Takahiro Nagatake[1)], Hidehiko Suzuki[1)], Mitsuo Kawano[2)], Kentaro Ogami[3)], Yusuke Tsujimura[3)], Etsushi Kuroda[4)], Norifumi Iijima[4,5)], Koji Hosomi[1)], Ken J. Ishii[4,5)], Yasuhiro Yasutomi[3)], Jun Kunisawa[1,6,7,8)]

Laboratory of Vaccine Materials & Laboratory of Gut Environmental System, Center for Vaccine and Adjuvant Research, National Institutes of Biomedical Innovation, Health and Nutrition (NIBIOHN), Osaka, Japan[1)], Department of Microbiology and Molecular Genetics, Mie University Graduate School of Medicine, Mie, Japan[2)], Laboratory of Immunoregulation and Vaccine Research, Tsukuba Primate Research Center, NIBIOHN, Ibaraki, Japan[3)], Laboratory of Vaccine Science, WPI Immunology Frontier Research Center, Osaka University, Osaka, Japan[4)], Laboratory of Adjuvant Innovation, Center for Vaccine and Adjuvant Research, NIBIOHN, Osaka, Japan[5)], Division of Mucosal Immunology, Department of Microbiology and Immunology and International Research and Development Center for Mucosal Vaccines, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[6)], Graduate School of Medicine/Graduate School of Pharmaceutical Sciences/Graduate School of Dentistry, Osaka University, Osaka, Japan[7)], Department of Microbiology and Immunology, Kobe University Graduate School of Medicine, Hyogo, Japan[8)]

2-F-WS19-14-O/P

Assessment of G9.1-induced innate immune responses for the development of safe nasal influenza vaccines

Koichiro Tateishi[1,2)], Kayoko Sato[1)], Eita Sasaki[1)], Takuo Mizukami[1)], Junichi Maeyama[1)], Sumiko Iho[3)], Saburo Yamamoto[4)], Norio Yamamoto[5)], Kohtaro Fujihashi[6,7)], Hideki Asanuma[1)]

National Institute of Infectious Diseases, Tokyo, Japan[1)], Japan Agency for Medical Research and Development, Tokyo, Japan[2)], University of Fukui, Faculty of Medical Sciences, Fukui, Japan[3)], JAPAN BCG Laboratory, Tokyo, Japan[4)], Department of Infection Control Science, Juntendo University, Tokyo, Japan[5)], The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[6)], Department of Pediatric Dentistry, The University of Alabama at Birmingham, Birmingham AL, USA[7)]

2-F-WS19-15-O/P

Short and medium chain triacylglycerols exhibit adjuvant effects in a mouse contact hypersensitivity model

Akimasa Orii, Kohta Kurohane, Yasuyuki Imai

Laboratory of Microbiology and Immunology, School of Pharmaceutical Sciences, University of Shizuoka, Shizuoka, Japan

2-F-WS19-16-O/P

Toll-Like Receptor 7 Agonist-Induced Dermatitis Causes Severe Dextran Sulfate Sodium Colitis

Tomohisa Sujino, Takanori Kanai

Department of Gastroenterology and Hepatology, Keio University School of medicine, Tokyo, Japan

WS-20 Allergy

15:20 ~ 16:40 Room G

Chairpersons: Hiroshi Nakajima, Kiyoshi Hirahara

"Allergic disease" is a relatively new disease concept, because Dr. Clemens Peter Feriherr von Pirquet, an Austrian pediatrician, coined the word "Allergy" to describe the hypersensitivity reactions against certain antigens in 1906. Recent studies highlighted that various environmental stimuli are crucial for the induction of immune responses. Mucosal barrier organs such as skin and lung are often involved in allergic inflammation. But it has been still uncertain about the mechanisms to shape the organ-specific allergic diseases. The aim of this workshop is to discuss the cutting-edge findings of the pathology of allergic diseases including the organ-specific allergic inflammation. This session will be helpful in extending our knowledge of the immune reactions that cause the pathology of allergic diseases. We would like to encourage all participants to be in active discussion.

2-G-WS20-1-O/P

The role of CD300f in the development of asthma

Ayako Kaitani, Kumi Izawa, Tomoaki Ando, Akie Maehara, Atsushi Tanabe, Keiko Maeda, Nobuhiro Nakano, Ko Okumura, Jiro Kitaura

Atopy (Allergy) Research Center, Juntendo University Graduate School of Medicine, Tokyo, Japan

2-G-WS20-2-O/P

Airway inflammation after epicutaneous sensitization requires protease activity of low-dose allergen inhalation

Seiji Kamijo[1)], Punyada Suchiva[1)], Hideoki Ogawa[1)], Shigaku Ikeda[1)], Ko Okumura[1)], Toshiro Takai[1)]

Atopy (allergy) research center, Juntendo university graduate school of medicine, Tokyo, Japan[1)], Animal Research Center, Tokyo Medical University, Tokyo, Japan[2)]

2-G-WS20-3-O/P

Pathogenic Th population disease induction model: From the recruitment of eosinophils to the induction of fibrosis

Kiyoshi Hirahara[1,2)], Yuki Morimoto[1)], Masahiro Kiuchi[1)], Mikiko Okano[1)], Kota Kokubo[1)], Tomohiro Ogino[1)], Toshinori Nakayama[1)]

Department of Immunology, Graduate School of Medicine, Chiba University, Chiba, Japan[1)], AMED-PRIME, AMED, Chiba, Japan[2)]

2-G-WS20-4-O/P

IgE glycosylation is important for the binding to mast cells and allergy induction

Tatsuya Yamazaki[1)], Masanori Inui[1)], Susumu Tomono[1)], Isao Ichimonji[1)], Kumi Izawa[2,3)], Jiro Kitaura[2,3)], Sachiko-Akashi Takamura[1)]

Department of Microbiology and Immunology, Aichi Medical University School of Medicine, Aichi, Japan[1)], Atopy Research Center, Juntendo University Graduate School of Medicine, Tokyo, Japan[2)], Division of Cellular Therapy/Division of Stem Cell Signaling, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[3)]

2-G-WS20-5-O/P

Regulation of the allergic response by non-canonical type I interferon signaling

Toshihiko Kobayashi, Hidemitsu Tsutsui, Noriko Toyama-Sorimachi

National Center for Global Health and Medicine, Research Institute, Tokyo, Japan

2-G-WS20-6-O/P

Ni-binding capabilities of migratory DCs in skin-draining lymph nodes

Toshinobu Kuroishi, Shunji Sugawara

Division of Oral Immunology, Tohoku University Graduate School of Dentistry, Sendai, Japan

2-G-WS20-7-O/P

Identification and functional analyses of three dendritic cell subsets accumulating in skin-draining lymph nodes upon the expression of thymic stromal lymphopoiein in the skin

Miyuki Omori-Miyake[1)], Hiroshi Watarai[2)], Kayoko Sato[3)], Junji Yagi[1)]

Department of Microbiology and Immunology, Tokyo Women's Medical University, Tokyo, Japan[1)], Division of Stem Cell Cellomics, Center for Stem Cell Biology and Regenerative Medicine, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[2)], Department of Cardiology, Tokyo Women's Medical University, Tokyo, Japan[3)]

2-G-WS20-8-O/P

Local skin memory response is mediated by tissue resident memory T cells

Akihiko Murata, Miya Yoshino, Shin-Ichi Hayashi

Division of Immunology, Department of Molecular and Cellular Biology, School of Life Science, Faculty of Medicine, Tottori University, Tottori, Japan

WS-21 Mast cells & granulocytes

15:20 ~ 16:40 Room H

Chairpersons: Jun Kunisawa, Yosuke Kurashima

It is generally accepted that mast cells and granulocytes (i.e., basophils, eosinophils, and neutrophils) play important roles in a variety of inflammatory and allergic reactions, but the mechanisms for the control of their functions have yet to be elucidated. In addition to self-regulation, cellular interactions among immune and non-immune cells are recent topic for the novel therapeutic strategies against allergic and inflammatory diseases. In this session, we would like to discuss the functional control of their biological activities by external tissue factors and cell intrinsic one for the control and development of allergic and inflammatory diseases.

2-H-WS21-1-O/P

Phosphatidylserine exposure self-regulates mast cells' degranulation

Yaqiu Wang[1)], Chigusa Nakahashi-Oda[2)], Akira Shibuya[2,3)]

Ph.D. Program in Human Biology, University of Tsukuba, Tsukuba, Japan[1)], Faculty of Medicine, University of Tsukuba, Tsukuba, Japan[2)], Life Science Center of Survival Dynamics, University of Tsukuba, Tsukuba, Japan[3)]

2-H-WS21-2-O/P

Orally-desensitized Mast Cells Acquired Regulatory Characteristics for the Control of Food Allergy

Yosuke Kurashima[1,2,3,4,5,6)], Yoshihiro Takasato[2,7)], Masahiro Kiuchi[8)], Kiyoshi Hirahara[8)], Sayuri Murasaki[2)], Jun Kunisawa[3,5)], Masato Kubo[9,10)], Satoshi Uematsu[2,3)], Toshinori Nakayama[8)], Hiroshi Kiyono[2,3,6)]

Department of Innovative Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan[1)], Division of Mucosal Immunology, IMSUT Distinguished Professor Unit, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[2)], International Research and Development Center for Mucosal Vaccines, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[3)], Department of Mucosal Immunology, Graduate School of Medicine, Chiba University, Chiba, Japan[4)], Laboratory of Vaccine Materials and Laboratory of Gut Environmental System, National Institutes of Biomedical Innovation, Health and Nutrition Institutes, Osaka, Japan[5)], Department of Medicine, School of Medicine,Chiba University-UC San Diego Center for Mucosal Immunology, Allergy, and Vaccines (CU-UCSD cMAV), University of California San Diego, CA, USA[6)], Department of Pediatrics, Graduate School of Medicine, Keio University, Tokyo, Japan[7)], Department of Immunology, Graduate School of Medicine, Chiba University, Chiba, Japan[8)], Laboratory for Cytokine Regulation, RIKEN Center for Integrative Medical Sciences, Kanagawa, Japan[9)], Division of Molecular Pathology, Research Institute for Biomedical Science, Tokyo University of Science, Chiba, Japan[10)]

2-H-WS21-3-O/P

An inhibitory receptor CD300f suppresses the development of food allergy

Shino Uchida[1,2)], Kumi Izawa[1)], Koichiro Uchida[1)], Naoko Negishi[1)], Akie Maehara[1)], Ayako Kaitani[1)], Tomoaki Ando[1)], Nobuhiro Nakano[1)], Ko Okumura[1)], Jiro Kitaura[1)]

Atopy (Allergy) Research Center, Juntendo University Graduate School of Medicine, Tokyo, Japan[1)], Department of Gastroenterology, Juntendo University Graduate School of Medicine, Tokyo, Japan[2)]

2-H-WS21-4-O/P

Aggregation makes a protein allergenic at the challenge phase of basophil-mediated allergy in mice

Toshihisa Nagao, Yoshinori Yamanishi, Kensuke Miyake, Mio Teranishi, Soichiro Yoshikawa, Yohei Kawano, Hajime Karasuyama

Department of Immune Regulation, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Tokyo, Japan

2-H-WS21-6-O/P

Histamine released from skin-infiltrating basophils but not mast cells is crucial for acquired tick resistance in mice

Soichiro Yoshikawa[1)], Yuya Tabakawa[1)], Takuya Ohta[1)], Kayoko Yamaji[2)], Kenji Ishiwata[2)], Yohei Kawano[1)], Yoshinori Yamanishi[1)], Hiroshi Ohtsu[3)], Takahiro Adachi[4)], Naohiro Watanabe[2)], Hirotaka Kanuka[2)], Hajime Karasuyama[1)]

Department of Immune Regulation, Tokyo medical and dental University (TMDU), Tokyo, Japan[1)], Department of Tropical Medicine, The Jikei University School of Medicine, Tokyo, Japan[2)], Tekiju Rehabilitation Hospital, Kobe, Japan[3)], Department of Immunology, Medical Research Institute, Tokyo Medical and Dental University (TMDU), Tokyo, Japan[4)]

2-H-WS21-10-O/P

Cadherin-related family member 3 upregulates the effector functions of eosinophils

Kazuyuki Nakagome[1)], Yury A. Bochkov[2)], Tomoyuki Soma[1)], James E. Gern[2)], Makoto Nagata[1)]

Department of Respiratory Medicine and Allergy Center, Saitama Medical University, Saitama, Japan[1)], Department of Pediatrics and Medicine, School of Medicine and Public Health, University of Wisconsin, Madison, Japan[2)]

2-H-WS21-12-O/P

The association NADPH oxidase independent NETosis with acceleration of mitochondrial ROS production

Emiko Takeuchi[1)], Yasuo Takeuchi[2)], Misao Iizuka[1)], Kazuya Iwabuchi[1)]

Department of Immunology, KITASATO University school of mediciene, Sagamihara, Japan[1)], Department of Nephrlogy, KITASOTO University school of medicine, Sagamihara, Japan[2)]

2-H-WS21-7-O/P

Essential role of basophils in the recruitment of phagocytes to the damaged skin

Rintaro Shibuya[1)], Akihiko Kitoh[1)], Kenji Kabashima[1,2)]

Department of Dermatology, Kyoto University, Kyoto, Japan[1)], Agency for Science, Technology and Research, Singapore, Singapore[2)]

December 12

WS-22 T cells-2: T cell development and selection

13:10 ~ 14:30 Room A

Chairpersons: Katsuto Hozumi, Taishin Akiyama

Various events occur continuously and coordinately for T cell development in the thymus. Recent studies have shown the critical factors for normal T cell and thymus development with loss-of-function experiment. These are Notch signaling, E2A, Bcl11b, Foxn1, Aire and TCR signaling as shown in this session. However, it has not been completely understood how these transcription factors or signaling coordinately function and contribute to T cell development. In this session, eight papers examine their roles for understanding their molecular machinery. We ask all researchers, who are interested in the T cell development, to join in this session, tidy up the knowledge and discuss their physiological significance in the thymus.

3-A-WS22-1-O/P

The epigenetic regulation of gene loci encoding transcription factor critical for the determination of T/B-cell lineages by Lmo2

Katsuto Hozumi, Ken-ichi Hirano

Department of Immunology, Tokai University School of Medicine, Isehara, Japan

3-A-WS22-2-O/P

The Indispensable Synergistic Role of E2A and Notch Signaling upon the T cell Lineage Commitment

Masaki Miyazaki, Kazuko Miyazaki, Hiroshi Kawamoto

Department of Immunology, Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan

3-A-WS22-3-O/P

Interactome study of Bcl11b during T cell development

Kazuki Okuyama, Satoshi Kojo, Sawako Muroi, Ichiro Taniuchi

Team of transcription regulation, IMS, RIKEN Yokohama, Kanagawa, Japan

3-A-WS22-4-O/P

Possible involvement of a transposition-like process in antigen receptor gene assembly in jawless vertebrates

Fumikiyo Nagawa

Department of Biological Sciences, The University of Tokyo, Tokyo, Japan

3-A-WS22-5-O/P

Exogenous Foxn1 expression promotes *in vitro* differentiation of thymic epithelial cells from induced pluripotent stem cells that contribute to the prolonged survival of allogeneic transplants

Ryo Otsuka, Haruka Wada, Airi Sasaki, Muhammad Baghdadi, Ken-ichiro Seino

Division of Immunobiology, Institute for Genetic Medicine, Hokkaido University, Sapporo, Japan

3-A-WS22-6-O/P

Transcriptomic analysis of medullary thymic epithelial cells with augmented Aire expression

Hitoshi Nishijima, Junko Morimoto, Minoru Matsumoto, Mitsuru Matsumoto

Molecular Immunology, Institute for Enzyme Research, Tokushima University, Tokushima, Japan

3-A-WS22-7-O/P

Early T cell progenitor-derived cells contribute to T cell repertoire selection in the thymus

Airi Sasaki, Haruka Wada, Ryo Otsuka, Muhammad Baghdadi, Ken-ichiro Seino

Division of Immunobiology, Institute for Genetic Medicine, Hokkaido University, Sapporo, Japan

3-A-WS22-8-O/P

Role of CD69 on iNKT cell development in the thymus

Motoko Y. Kimura[1,2], Koji Hayashizaki[2,3], Ryoji Yagi[2], Yukihiro Endo[2], Shinichiro Motohashi[1], Toshinori Nakayama[2]

Department of Molecular Immunology, Chiba University, Graduate school of Medicine, Chiba, Japan[1], Department of Immunology, Chiba University, Graduate school of Medicine, Chiba, Japan[2], National Institute of Infectious Diseases, Tokyo, Japan[3]

WS-23 T cells-3:T cell activation and signaling

14:40 ~ 16:00 Room A

Chairpersons: Satoshi Matsuda, Tadashi Yokosuka

T cell activation is introduced by the recognition of a cognate antigen peptide loaded on an MHC through the TCR, then succeeding to various branches in its downstream. For understanding how these signal transduction pathways cooperatively regulate T cells to achieve their appropriate activation and the effector and memory differentiation, it is really important to unravel the mechanisms of responsive signaling and materials regulating T cell activation in positive and negative fashions. Recent developing concepts also have included not only the downstream molecules in TCR signaling but also innate immune systems, adhesion proteins, cytoskeletal structures, plasma membrane components, transcriptional regulators and metabolites. In this session consisting with 8 talks (7 minute-talk and 3 minute-discussion) and 11 posters, we will discuss how these signaling pathways regulate T cell responses. We hope active participations and discussions for elucidating the molecular basis underlining T cell signaling.

3-A-WS23-3-O/P

Single molecule imaging reveals a distinct difference in Lck-dynamics between $CD4^+$ and $CD8^+$ T cells

Hiroaki Machiyama, Ei Wakamatsu, Noriko Yanase, Kikumi Hata, Masae Furuhata, Hiroko Toyota, Tadashi Yokosuka

Department of Immunology, Tokyo Medical University, Tokyo, Japan

3-A-WS23-6-O/P

ZNF131, one of BTB ZF protein family members, is required for proliferation as well as activation of both T and B lymphocytes

Shoichiro Miyatake[1)], Tomohiro Iguchi[2)], Hisao Masai[3)]

Immunology, Graduate School of Environmental Health Sciences, Azabu University, Kanagawa, Japan[1)], Laboratory of Biomenbrane, Department of genome medicine, Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan[2)], Genome dynamics project, Department of genome medicine, Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan[3)]

3-A-WS23-8-O/P

Dynamics of the PI3K signaling pathway induced by a T cell costimulator, ICOS

Tadashi Yokosuka, Ei Wakamatsu, Noriko Yanase, Hiroko Toyota, Masae Furuhata, Kikumi Hata, Hiroaki Machiyama

Department of Immunology, Tokyo Medical University, Tokyo, Japan

3-A-WS23-11-O/P

STAP-2 acts as a positive regulator in TCR-mediated T cell activation

Kodai Saitoh[1)], Jun-ichi Kashiwakura[1)], Yuichi Sekine[4)], Ryuta Muromoto[1)], Yuichi Kitai[1)], Akihiko Yoshimura[2)], Kenji Oritani[3)], Tadashi Matsuda[1)]

Department of Immunology, Hokkaido University, Hokkaido, Japan[1)], Department of Microbiology and Immunology, Keio University School of Medicine, Tokyo, Japan[2)], Department of Hematology, International University of Health and Welfare, Tochigi, Japan[3)], Program in Cellular Neuroscience, Neurodegeneration & Repair, Yale University School of Medicine, New Haven, USA[4)]

3-A-WS23-12-O/P

Functional analysis of autoimmune-associated phosphatase PTPN2(TCPTP) in T cells

Akiko Hashimoto-tane, Takashi Saito

Laboratory for Cell Signaling, Center for Integrative Medical Science, RIKEN, Yokohama, Japan

3-A-WS23-14-O/P

Low-affinity TCR engagement induces Itm2a to mediate T cell maintenance in the periphery

Moe Shiokawa[1,2)], Eri Ishikawa[1,2)], Sho Yamasaki[1,2)]

Molecular Immunology, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[1)], Molecular Immunology, Immunology Frontier Research Center, Osaka University, Osaka, Japan[2)]

3-A-WS23-17-O/P

Ambra1 is involved in TCR signal-mediated metabolic transition

Kaori Masuhara[1,2)], Hisako Akatsuka[1)], Minoru Kimura[2)], Takehito Sato[1)]

Division of Basic Medical Science and Molecular Medicine, Department of Host Defense Mechanism, Tokai University School of Medicine, Kanagawa, Japan[1)], Department of Molecular Life Science, Tokai University of School of Medicine, Kanagawa, Japan[2)]

3-A-WS23-19-O/P

PRMT5-mediated arginine methylation essential for the strength of γc family cytokine signaling in T cell maintenance

Maia Inoue[1)], Kazuo Okamoto[2)], Hiroshi Takayanagi[1)]

Department of Immunology, Graduate School of Medicine and Faculty of Medicine, The University of Tokyo, Tokyo, Japan[1)], Department of Osteoimmunology, Graduate School of Medicine and Faculty of Medicine, The University of Tokyo, Tokyo, Japan[2)]

WS-24 Tissue-specific immune diseases-1

13:10 ~ 14:30 Room B

Chairpersons: Motomu Hashimoto, Atsushi Tanaka

The pathogenesis of tissue specific autoimmune diseases has not yet been fully understood. This session focuses on the dysregulated immune responses in the development of organ specific autoimmune diseases, including multiple sclerosis, neuromyelitis optica, thyroiditis, myocarditis, hepatitis, type-1 diabetes, and colitis. Cutting-edge results to be presented here, from various viewpoints including animal models and clinical studies, will provide new insights into the pathogenesis of autoimmune diseases. Approach from a different perspective enables us to understand the immunological mechanism in organ-specific autoimmune diseases. We encourage participation of many researchers to exchange novel observations and perspectives in this session.

3-B-WS24-5-O/P

Immunophenotyping of PBMC from patients with multiple sclerosis and neuromyelitis optica spectrum disorder

Yasunobu Hoshino[1,2], Daisuke Noto[1], Kazumasa Yokoyama[2], Nobutaka Hattori[2], Sachiko Miyake[1]

Department of Immunology, Juntendo University school of medicine, Tokyo, Japan[1], Department of Neurology, Juntendo University school of medicine, Tokyo, Japan[2]

3-B-WS24-7-O/P

Significant associations of human *SIGLEC10* polymorphisms with susceptibility to Guillain-Barré syndrome

Xuexin Li[1], Soha Gomaa Ramadan Abdel Salam[1,2], Matthew Routledge[1,3], Yuki Hitomi[4], Susumu Kusunoki[5], Takeshi Tsubata[1]

Medical Research Institute, Department of Immunology, Tokyo Medical and Dental University, Tokyo, Japan[1], Department of Zoology, School of Science, Tanta University, Tanta, Egypt[2], Imperial College School of Medicine, Imperial College London, London, UK[3], Department of Human Genetics, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[4], Department of Neurology, Faculty of Medicine, Kindai University, Osaka, Japan[5]

3-B-WS24-8-O/P

Eomes$^+$Th cells in patients with secondary progressive multiple sclerosis are associated with actively progressing disease

Ben JE Raveney, Wakiro Sato, Daiki Takewaki, Shinji Oki, Takashi Yamamura

Department of Immunology, National Institute of Neuroscience, NCNP, Kodaira, Tokyo, Japan

3-B-WS24-10-O/P

TSHR-stimulating autoantibody production by TSHR / MHC class II complexes

Hui Jin[1], Noriko Arase[2], Masako Kohyama[1,3], Tadahiro Suenaga[1,3], Takehiko Sasazuki[4], Hisashi Arase[1,3]

Laboratory of Immunochemistry, Immunology Frontier Research Center, Osaka University, Osaka, Japan[1], Department of Dermatology, Osaka University Graduate School of Medicine, Osaka, Japan[2], Department of Immunochemistry, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[3], Institute for Advanced Study, Kyushu University, Fukuoka, Japan[4]

3-B-WS24-11-O/P

TLR4 exacerbates a novel model of myocarditis induced with a picornavirus

Fumitaka Sato[1], Seiichi Omura[1], Eiichiro Kawai[2], Nicholas E. Martinez[3], Madan M. Acharya[3], Pratap C. Reddy[3], J. Steven Alexander[3], Ikuo Tsunoda[1]

Microbiology, Kindai University Faculty of Medicine, Osaka, Japan[1], Pediatrics, Tohoku Medical and Pharmaceutical University, Miyagi, Japan[2], Microbiology & Immunology, Louisiana State University Health Sciences Center-Shreveport, Louisiana, USA[3]

3-B-WS24-12-O/P

The involvement of glutaminolysis in B cell differentiation and its clinical application for type 1 diabetes

Maiko Hajime[1], Shigeru Iwata[1], Mingzeng Zhang[1], Masataka Torigoe[2], Shingo Nakayamada[1], Kei Sakata[3], Yoshiya Tanaka[1]

First Department of Internal Medicine, University of Occupational and Environmental Health, Kitakyushu, Japan[1], Department of Endocrinology, Metabolism, Rheumatology and Nephrology, Oita University, Oita, Japan[2], Mitsubishi Tanabe Pharma, Yokohama, Japan[3]

3-B-WS24-14-O/P

Cd11c-Cre$^+$ *Rab7a*$^{flox/flox}$ mice develop autoimmune hepatitis

Shin-Ichiroh Saitoh, Yoshiko Mori Saitoh, Kensuke Miyake

Division of Innate Immunity, Department of Microbiology and Immunology, The Institute of Medical Science, The University of Tokyo, Minatoku, Japan

3-B-WS24-16-O/P

Oral genotoxic bacteria promote intestinal inflammation and tumoringenesis

Sho Kitamoto

University of Michigan, Ann Arbor, Japan

WS-25 Tissue-specific immune diseases-2

14:40 ~ 16:00 Room B

Chairpersons: Chikashi Terao, Koichiro Ohmura

Understanding the basics of organ-specific autoimmune disorders enables us to control the diseases and develop novel treatment. Importantly, the common mechanisms and players in diseases affecting different organs are often the case, indicating cutting-edge results and knowledge in a disease would provide novel insight of different autoimmune diseases. This session aims to deepen our understanding of the mechanisms underlying organ-specific autoimmune disorders in which autoimmune-mediated inflammation occurs joints, lung, salivary glands and kidneys. Researchers to present their studies in talks and posters are taking various kinds of aspects and approaches including detailed in-vivo experiments with the use of known animal models, cellular analyses and development of animal models. We encourage enthusiastic participation of researchers from different fields and active discussion under the viewpoints of various range of specialties.

3-B-WS25-2-O/P

Dysregulation of p63 in the salivary gland epithelia initiates the pathogenesis of Sjögren's syndrome

Daisuke Suzuki[1)], Filipa Pinto[1)], Adrian N. Leu[2)], Hiroto Tsuboi[3)], Takayuki Sumida[3)], Makoto Senoo[1)]

Molecular and Cell Biology, Boston University Henry M. Goldman School of Dental Medicine, Boston, USA[1)], Biomedical Sciences, University of Pennsylvania School of Veterinary Medicine, Philadelphia, USA[2)], Internal Medicine, University of Tsukuba, Tsukuba, Japan[3)]

3-B-WS25-4-O/P

CD11c-specific ablation of the protein tyrosine phosphatase Shp-1 induces autoimmune sialadenitis: Is it a new model mouse for Sjögren's syndrome?

Masato Kinoshita[1)], Yoriaki Kaneko[1)], Mitsuharu Watanabe[1)], Yuko Ohishi[1)], Shreya Shrestha[1)], Junya Suwa[1)], Yasuyuki Saito[4)], Hiroshi Ohnishi[3)], Yoshihisa Nojima[2)], Takashi Matozaki[4)], Keiju Hiromura[1)]

Department of Nephrology and Rheumatology, Gunma University Graduate School of Medicine, Maebashi, Japan[1)], Department of Rheumatology and Nephrology, Japanese Red Cross Maebashi Hospital, Maebashi, Japan[2)], Department of Laboratory Sciences, Gunma University Graduate School of Health Sciences, Maebashi, Japan[3)], Division of Molecular and Cellular Signaling, Department of Biochemistry and Molecular Biology, Kobe University Graduate School of Medicine, Kobe, Japan[4)]

3-B-WS25-7-O/P

A low molecular weight BAFF signaling inhibitor reduces production of autoantibody and suppresses infiltration of B cells into the organs in autoimmune model mice

Keiko Yoshimoto[1,2)], Katsuya Suzuki[1)], Noriyasu Seki[3)], Kunio Sugahara[3)], Kenji Chiba[3)], Tsutomu Takeuchi[1)]

Division of Rheumatology, Department of Internal Medicine, Keio University School of Medicine, Tokyo, Japan[1)], Clinical and Translational Research Center, Keio University Hospital, Tokyo, Japan[2)], Research Unit/Immunology & Inflammation, Mitsubishi Tanabe Pharma Corporation, Yokohama, Japan[3)]

3-B-WS25-10-O/P

Establishment of reactive arthritis mouse model by an exosome-mediated inflammation induction mechanism

Mitsutoshi Ota[1,2)], OHKI Takuto[1)], TANAKA Yuki[1)], KAMIMURA Daisuke[1)], YAMAMOTO Reiji[1,2)], IWASAKI Norimasa[2)], MURAKAMI Masaaki[1)]

Division of Molecular Psychoimmunology, Institute for Genetic Medicine, Hokkaido University, Sapporo, Japan[1)], Department of Orthopaedic Surgery, Graduate School of Medicine, Hokkaido University, Sapporo, Japan[2)]

3-B-WS25-15-O/P

Necrostatin-7, but not Necrostatin-1, suppresses RANK-NFATc1 signaling and macrophage to osteoclast differentiation

Hideto Yasutomi[1)], Hiroaki Fuji[2)], Saori Ohmae[3)], Naruto Noma[2)], Kazuya Izumi[1)], Shigeaki Hida[1)], Mineyoshi Aoyama[1)], Keiko Iwaisako[2,4)], Shinji Uemoto[2)], Masataka Asagiri[1,2)]

Graduate School of Pharmaceutical Sciences, Nagoya City University, Nagoya, Japan[1)], Graduate School of Medicine, Kyoto University, Kyoto, Japan[2)], Graduate School of Biostudies, Kyoto University, Kyoto, Japan[3)], Faculty of Life and Medical Sciences, Doshisha University, Kyotanabe, Japan[4)]

3-B-WS25-16-O/P

Gene profiling of macrophages stimulated by vitamin E-blended ultra-high molecular weight polyethylene debris of orthopedic implants identifies IL-27 as potent regulator of osteolysis

Alaa Terkawi, Gen Matsumae, Masanari Hamasaki, Norimasa Iwasaki

Department of Orthopaedic Surgery, Hokkaido university school of medicine, Hokkaido, Japan

3-B-WS25-21-O/P

A novel mouse model of diabetic nephropathy using a transgenic mouse with glomerulus-specific overexpression of human transforming growth factor-β1

Kota Nishihama[1,2], Atsuro Takeshita[3], Taro Yasuma[3], Corina Gabazza[3], Prince Baffour Tonto[3], Masaaki Toda[3], Yutaka Yano[4], Esteban Gabazza[3]

Clinical training and Career support Center, Mie University Hospital, Tsu, Japan[1], Department of Diabetes and Endocrinology, Mie University Hospital, Tsu, Japan[2], Department of Immunology, Mie University Graduate School of Medicine, Tsu, Japan[3], Department of Diabetes, Metabolism and Endocrinology, Mie University Graduate School of Medicine, Tsu, Japan[4]

3-B-WS25-23-O/P

Impacts of circulating AIM protein on the pathogenesis of IgA nephropathy via inducing *in situ* inflammatory immune-complex formation

Emiri Hiramoto, Satoko Arai, Toru Miyazaki

Lab of Molecular Biomedicine for Pathogenesis, Facluty of Medicine, The University of Tokyo, Tokyo, Japan

WS-26 Tolerance and Immune suppression-2: Antigen presentation and co-stimulation in Tolerance

13:10 ~ 14:30 Room C

Chairpersons: Hisashi Arase, Taku Okazaki

Antigen presentation is the essence of T cell activation. However, T cells receive not only antigen receptor signal but also various antigen-independent signals such as stimulatory and inhibitory signals through co-receptors and signals through cytokine receptors during antigen stimulation. Thus, fates of T cells upon activation are determined by the summation of antigen-dependent and -independent signals. In this workshop, we will have presentations analyzing roles of MHC molecules, co-receptors, and tolerogenic DCs in immune tolerance and discuss how immune tolerance is established and maintained. We welcome active discussion. 【Each presentation is expected to finish within 8 min followed by 2 min discussion.】

3-C-WS26-1-O/P

Regulation of diabetogenic T cell response by antibodies against peptide-MHC class II complex

Yushi Matsumoto[1,2], Kazuki Kishida[1], Wataru Nakai[2], Masako Koyama[1,2], Tadahiro Suenaga[1,2], Hisashi Arase[1,2]

Department of Immunochemistry, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[1], Laboratory of Immunochemistry, Immunology Frontier Research Center, Osaka University, Osaka, Japan[2]

3-C-WS26-2-O/P

Deletion of CD74 (invariant chain) in adult mice results in autoantibody production

Tatuya Shishido[1], Masako Kohyama[1,2], Tadahiro Suenaga[1,2], Hisashi Arase[1,2]

Department of Immunochemistry, Research Institute for Microbial Disease, Osaka University, Osaka, Japan[1], Laboratory of Immunochemistry, Immunology Frontier Research Center, Osaka University, Osaka, Japan[2]

3-C-WS26-3-O/P

LAG-3 preferentially inhibits activation of CD4 T cells recognizing stable pMHCII by its conformation-dependent recognition of MHCII

Takumi Maruhashi, Il-mi Okazaki, Daisuke Sugiura, Kenji Shimizu, Taku Okazaki

Division of Immune Regulation, Institute of Advanced Medical Sciences, Tokushima University, Tokushima, Japan

3-C-WS26-5-O/P

Crucial role of conventional dendritic cells in the protective effect of sublingual immunotherapy (SLIT) on allergic disorders

Hideaki Takagi, Noriaki Miyanaga, Tomofumi Uto, Tomohiro Fukaya, Junta Nasu, Takehiko Fukui, Katsuaki Sato

University of Miyazaki, Miyazaki, Japan

3-C-WS26-8-O/P

Protective role of plasmacytoid dendritic cells in acute non-viral hepatitis via induction of interleukin-35 producing regulatory T cells

Yuzo KODA[1,2], Nobuhiro NAKAMOTO[1], Takayuki YOSHIMOTO[3], Takanori KANAI[1]

Division of Gastroenterology and Hepatology, Department of Internal Medicine, Keio University School of Medicine, Tokyo, Japan[1], Research Unit/Immunology&Inflammation Sohyaku, Innovative Research Division, Mitsubishi Tanabe Pharma Corporation, Kanagawa, Japan[2], Department of Immunoregulation, Institute of Medical Science, Tokyo Medical University, Tokyo, Japan[3]

3-C-WS26-10-O/P

Dendritic cells expressing a unique set of genes associated with immunological tolerance are specialized to expand thymus-derived Foxp3$^+$ regulatory T cells in the ultraviolet B-exposed skin

Sayuri Yamazaki[1], Mizuyu Odanaka[1], Akiko Nishioka[2], Hiroaki Shime[1], Hiroaki Hemmi[3,4], Masaki Imai[2], Tsuneyasu Kaisho[3,4], Naganari Ohkura[5,6], Shimon Sakaguchi[5], Akimichi Morita[2]

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3-C-WS26-11-O/P

PD-1 primarily targets TCR-signal in the inhibition of functional T cell activation

Reina Mizuno, Daisuke Sugiura, Kenji Shimizu, Takumi Maruhashi, Il-mi Okazaki, Taku Okazaki

Division of Immune Regulation, Institute of Advanced Medical Sciences, Tokushima University, Tokushima, Japan

3-C-WS26-12-O/P

Silencing effects of B7-DC in cutaneous DCs on allergic skin diseases

Emi Furusawa[1,2)], Taisei Noda[1)], Takuya Komiyama[1)], Tatsukuni Ohno[1)], Hiroo Yokozeki[3)], Katsunori Kobayashi[4)], Hidetoshi Hamamoto[4)], Michiyo Miyashin[2)], Miyuki Azuma[1)]

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WS-27 Tolerance and Immune suppression-3: Tolerance and disease

14:40 ~ 16:00 Room C

Chairpersons: Keishi Fujio, Shunsuke Chikuma

Breakdown of immune tolerance leads to a number of diseases including autoimmune diseases. In order to develop a treatment with fewer side effects than the current nonspecific immunosuppressive therapy, clarification of the pathological condition is essential. Recent advance of immunological technology enables us to analyze immune response in detail for both animal models and human. In this workshop, we focus on the relationship between tolerogenic machinery and immunological disease. Roles of Regulatory T cells, MDSC, inhibitory cytokines, and regulatory molecules in organ specific autoimmunity, systemic autoimmunity and transplantation will be presented in this workshop. We expect active discussion and communication by all participants. 【Each presentation has 8 min for presentation and 3 min for discussion.】

3-C-WS27-1-O/P

Cytokine-mediated Immune tolerance via mitochondrial reprogramming

Toshihiko Komai[1)], Tomohisa Okamura[1,2,3)], Mariko Inoue[1)], Kaoru Morita[1)], Yukiko Iwasaki[1)], Shuji Sumitomo[1)], Hirofumi Shoda[1)], Kazuhiko Yamamoto[1,3,4)], Keishi Fujio[1)]

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3-C-WS27-2-O/P

A novel mechanism for induction of tissue-specific immune evasion

Tetsuya Sakurai, Yoshinori Fukui

Division of Immunogenetics, Department of Immunobiology and Neuroscience, Medical Institute of Bioregulation, Kyushu University, Fukuoka, Japan

3-C-WS27-7-O/P

Attenuation and alteration of thymic epithelial cells and enhanced autoreactivity in cyclosporine A-treated rats

Yasushi Sawanobori, Yusuke Kitazawa, Hisashi Ueta, Kenjiroh Matsuno, Nobuko Tokuda

Department of Anatomy (macro), Dokkyo Medical University, Mibu, Japan

3-C-WS27-8-O/P

Analysis and regulation of immune reaction in the transplantation from MHC homozygous donors to heterozygous recipients with minor antigen mismatches

Haruka Wada, Ryo Otsuka, Airi Sasaki, Muhammad Baghdadi, Ken-ichiro Seino

Division of Immunobiology, Institute for Genetic Medicine, Hokkaido University, Sapporo, Japan

3-C-WS27-12-O/P

Myeloid-Derived Suppressor Cells Increase and Inhibit Donor-Reactive T Cell Responses to Graft Intestinal Epithelium in Intestinal Transplant Patients

Shinji Okano

Section of Pathology, Department of Morphological Biology, Fukuoka dental college, Fukuoka, Japan

3-C-WS27-13-O/P

Novel immune monitoring assay by minimizing the influence of immunosuppressants for living donor liver recipients by using humanized mouse model

Yasutomo Fukasaku, Ryoichi Goto, Yoshikazu Ganchiku, Masaaki Zaitsu, Masaaki Watanabe, Norio Kawamura, Tsuyoshi Shimamura, Akinobu Taketomi

Department of Gastroenterological Surgery 1, Hokkaido University, Sapporo, Japan

3-C-WS27-14-O/P

A new feature of regulatory T cells in human head and neck cancer

Takuma Matoba[1,2)], Masaki Imai[1)], Naganari Ohkura[3,4)], Daisuke Kawakita[2)], Kei Ijichi[2)], Tatsuya Toyama[5)], Akimichi Morita[6)], Shingo Murakami[2)], Shimon Sakaguchi[3)], Sayuri Yamazaki[1)]

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WS-28 Endogeneous innate immunity and inflammation-1: Endogenous innate immune response

13:10 ~ 14:30 Room D

Chairpersons: Taro Kawai, Miwa Sasai

Intracellular immune systems, such as inflammasome, TLRs, NLRs and cGAS-STING pathway, are activated by the invasion of various pathogens. This triggers the production of inflammatory factors in innate immune cells for host defense to eliminate invading pathogens. However, excess or uncontrolled activation of intracellular immune systems leads to chronic inflammation and sustained organ dysfunction (e.g., autoimmune diseases and autoinflammatory diseases). Cellular and molecular mechanisms underlying the root cause of chronic inflammation are still insufficiently clarified. This workshop will be helpful for understanding the precisely controlled mechanisms for the regulation of innate immune system.

3-D-WS28-1-O/P

GABARAP Autophagy Proteins Prevent the Caspase-11-Dependent Excess Inflammation and Lethal Endotoxic Shock

Miwa Sasai, Naoya Sakaguchi, Hironori Bando, Youngae Lee, Masahiro Yamamoto

Osaka University, Osaka, Japan

3-D-WS28-2-O/P

Inhibition of NLRP3 inflammasome-mediated IL-1β release by 1'-acetoxychavicol acetate (ACA), a ginger-derived compound

Sophia Ping Meow Sok[1,2,3], Daisuke Ori[1], Noor Hasima Nagoor[3,4], Taro Kawai[1]

Laboratory of Molecular Immunobiology, Division of Biological Science, Nara Institute of Science and Technology, Nara, Japan[1], Institute of Postgraduate Studies (IPS), University of Malaya, Kuala Lumpur, Malaysia[2], Centre of Research in Biotechnology for Agriculture (CEBAR), University of Malaya, Kuala Lumpur, Malaysia[3], Institute of Biological Sciences, Faculty of Science, University of Malaya, Kuala Lumpur, Malaysia[4]

3-D-WS28-7-O/P

Blau patient-derived iPS cells reveal gain-of-function mutation of NOD2 selectively impairs its ligand specific immune responses

Nhung Thi My Ly[1], Naotomo Kambe[1], Megumu K. Saito[2], Hiroyuki Okamoto[1]

Department of Dermatology, Kansai Medical University, Hirakata, Osaka, Japan[1], Clinical Application, CiRA, Kyoto University, Kyoto, Japan[2]

3-D-WS28-8-O/P

ZNFx abrogates Riplet-mediated polyubiquitination of RIG-I, leading to attenuation of type I interferon production during viral infection

Takahisa Kouwaki, Hirotake Tsukamoto, Hiroyuki Oshiumi

Kumamoto university Graduate school of medical sciences, Kumamoto, Japan

3-D-WS28-12-O/P

Ribonuclease T2 negatively regulates response of the dsRNA sensor TLR3

Kaiwen Liu, Ryota Sato, Takuma Shibata, Yun Zhang, Kensuke Miyake

Division of Innate Immunity, The Institute of Medical Sciences, The University of Tokyo, Tokyo, Japan

3-D-WS28-14-O/P

Identification of endogenous nitro-fatty acids as inhibitors of STING signaling

Kojiro Mukai[1], Hiroyuki Arai[1,2], Tomohiko Taguchi[3,4], Christian K. Holm[5]

Department of Health Chemistry, Graduate School of Pharmaceutical Sciences, the University of Tokyo, Tokyo, Japan[1], AMED-CREST, Tokyo, Japan[2], Laboratory of Organelle Pathophysiology, Department of Integrative Life Sciences, Graduate School of Life Sciences, Tohoku University, Sendai, Japan[3], AMED-PRIME, Sendai, Japan[4], Department of Biomedicine, Aarhus University, Aarhus, Denmark[5]

3-D-WS28-15-O/P

TANK negatively regulates DNA triggered-STING signaling activation

Atsuko Wakabayashi, Osamu Takeuchi

Lab. of Infection and Prevention, Department of Virus Research, Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan

3-D-WS28-16-O/P

Multiple functions of CXCL14 in the CpG DNA transport into dendritic cells/macrophages for modulating Toll-like receptor 9 signaling

Takahiko Hara[1,2]

Stem Cell Project, Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan[1], Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Tokyo, Japan[2]

WS-29 Endogeneous innate immunity and inflammation-2: Innate immune response and tissue repair

14:40 ~ 16:00 Room D

Chairpersons: Osamu Takeuchi, Takashi Shichita

Innate immune responses are triggered by not only various invasive pathogens but also sterile tissue injury. This is due to the activation of pattern recognition receptors in innate immune cells by the components of pathogens (called as PAMPs) or the extracellular release of endogenous immunogenic molecules (called as DAMPs) from injured tissue. After the clearance of invasive pathogens or endogenous danger signals from injured cells, inflammation will be resolved by the induction of anti-inflammatory or pro-resolving immune cells. Recent evidences have clarified the previously unknown cellular or molecular mechanisms for repairing process after infection and tissue injury. In this workshop, we will discuss the relationship between inflammation and tissue repair.

3-D-WS29-1-O/P

Phosphorylation and functional inactivation of Regnase-1 enhance target mRNA stability during IL-17-mediated inflammatory response

Hiroki Tanaka[1)], Yasunobu Arima[2)], Daisuke Kamimura[2)], Noriyuki Takahashi[3)], Kazuhiko Maeda[1,4)], Takashi Satoh[1,4)], Masaaki Murakami[2)], Shizuo Akira[1,4)]

Immunology Frontier Research Center, Osaka University, Osaka, Japan[1)], Institute for Genetic Medicine, Hokkaido University, Sapporo, Japan[2)], Kamakura Research Laboratories, Chugai Pharmaceutical Co. Ltd., Kamakura, Japan[3)], Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[4)]

3-D-WS29-2-O/P

Metabolic control of Regnase-1 in colon epithelial regeneration

Yasuharu Nagahama[1,3)], Mayuko Shimoda[1,2)], Yuuki Kozakai[1,4)], Hiroki Tanaka[1,2)], Takashi Satoh[1,2)], Kazuhiko Maeda[1,2)], Shizuo Akira[1,2)]

Laboratory of Host Defense, Immunology Frontier Research Center, Osaka University, Osaka, Japan[1)], Laboratory of Host Defense, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[2)], Fujii Memorial Research Institute, Otsuka Pharmaceutical Co., Ltd., Shiga, Japan[3)], Tokushima Research Institute, Otsuka Pharmaceutical Co., Ltd., Tokushima, Japan[4)]

3-D-WS29-4-O/P

TRAF5 maintains the expression level of TRAF2 in non-hematopoietic cells and exacerbates DSS-colitis in mice

Hai The Phung[1)], Hiroyuki Nagashima[1)], Shuhei Kobayashi[1)], Tomoaki Machiyama[1)], Atsuko Asao[1)], Yuko Okuyama[1)], Naoto Ishii[1)], Takanori So[1,2)]

Department of Microbiology and Immunology, Tohoku University Graduate School of Medicine, Sendai, Japan[1)], Laboratory of Molecular Cell Biology, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Toyama, Japan[2)]

3-D-WS29-5-O/P

Intraluminally secreted extracellular vesicles from the intestinal epithelial cells in sepsis support mucosal healing

Eun Jeong Park[1)], Michael G Appiah[1)], Samuel Darkwah[1)], Zay Yar Soe[1)], Eiji Kawamoto[1,2)], Motomu Shimaoka[1)]

Department of Molecular Pathobiology and Cell Adhesion Biology, Mie University Graduate School of Medicine, Tsu, Japan[1)], Department of Emergency and Disaster Medicine, Mie University Graduate School of Medicine, Tsu, Japan[2)]

3-D-WS29-7-O/P

Screening of microbiota involved in the suppression of hepatic steatosis from obesity-resistant $\gamma_c^{-/-}$Rag2$^{-/-}$ mice

Aina Hirashima[1,2)], Takaharu Sasaki[2)], Hiroshi Ohno[1,2)]

Department of Medical Life Science, Graduate School of Medical Life Science, Yokohama City University, Yokohama, Japan[1)], Laboratory for intestinal Ecosystem, RIKEN Center for Integrative Medical Science, Yokohama, Japan[2)]

3-D-WS29-8-O/P

Recognition of phospholipids on dead cells via inhibitory C-type lectin receptor

Chihiro Motozono[1,2)], Toru Shimane[1)], Shota Torigoe[1)], Naoya Nishimura[1)], Sho Yamasaki[1,2)]

Department of Molecular Immunology, Research Institute for Microbial Diseases, Osaka University, Suita, Japan[1)], Laboratory of Molecular Immunology, Immunology Frontier Research Center, Osaka University, Suita, Japan[2)]

3-D-WS29-9-O/P

RBM7 licenses fibrosis development via regulating ncRNA decay and SatM recruitment

Kiyoharu Fukushima[1,2)], Takashi Satoh[1)], Atsushi Kumanogoh[2)], Shizuo Akira[1)]

Department of Host Defense, Research Institute for Microbial Diseases (RIMD), Osaka University, Osaka, Japan, Osaka, Japan[1)], Department of Respiratory Medicine and Clinical Immunology, Osaka University, Osaka, Japan, Osaka, Japan[2)]

WS-30 Cancer immunotherapy-2

13:10 ~ 14:30 Room E

Chairpersons: Keio Udaka, Hiroaki Ikeda

In this WS, studies in the field of immune checkpoint blockade incluidng anti-PD-1/PD-L1 mAbs will be presented. In addition, combined approaches of immunotherapies and other drugs such as chemotherapy will be discussed.

3-E-WS30-1-O/P

Combined blockade of IL-6 and PD-1/PD-L1 signaling abrogates mutual regulation of their immunosuppressive effects in the tumor microenvironment

Hirotake Tsukamoto[1)], Azusa Miyashita[3,4)], Satoshi Fukushima[3)], Yasuharu Nishimura[2,5)], Hiroyuki Oshiumi[1)]

Department of Immunology, Graduate School of Medical Sciences, Kumamoto University, Kumamoto, Japan[1)], Department of Immunogenetics, Graduate School of Medical Sciences, Kumamoto University, Kumamoto, Japan[2)], Department of Dermatology and Plastic Surgery, Graduate School of Medical Sciences, Kumamoto University, Kumamoto, Japan[3)], Department of Clinical Investigation, Faculty of Life Sciences, Kumamoto University, Kumamoto, Japan[4)], Nishimura Project Laboratory, Institute of Resource Development and Analysis, Kumamoto University, Kumamoto, Japan[5)]

3-E-WS30-2-O/P

Robust anti-tumor effect of the systemic co-administration of the alarmin HMGN1 with anti-PD-L1 antibody in mice

Chang-Yu Chen[1,2)], Satoshi Ueha[1)], Shoji Yokochi[1)], Yoshiro Ishiwata[1)], Haru Ogiwara[1)], Shungo Deshimaru[1)], Shiro Shibayama[3)], Kouji Matsushima[1)]

Division of Immunobiology, Research Institute for Biomedical Sciences, Tokyo University of Science, Chiba, Japan[1)], Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[2)], Research Center of Immunology, Tsukuba Institute, ONO Pharmaceutical Co., Ltd., Tsukuba, Japan[3)]

3-E-WS30-7-O/P

Depending on the genetic background anti-PD-L1 antibodies of the IgG2a subclass can enhance antitumor activity through depletion of intratumoral myeloid cells

Sjef Verbeek[1)], Heng S Sow[2)], Hreinn Benonisson[2)], Cor Breukel[2)], Remco Visser[5)], Onno J Verhagen[5)], Arthur E Bentlage[5)], Marcel Camps[3)], Thorbald Van Hall[4)], Ferry Ossendorp[3)], Marieke F Fransen[3)], Gestur Vidarsson[5)]

Department of Biomedical Engineering, Toin University of Yokohama, Yokohama, Japan[1)], Department of Human Genetics, Leiden University Medical Center, Leiden, the Netherlands[2)], Department of Immunohematology, Leiden University Medical Center, Leiden, the Netherlands[3)], Department of Medical Oncology, Leiden University Medical Center, Leiden, the Netherlands[4)], Department of Experimental Immunohematology, Academic Medical Centre, University of Amsterdam, Amsterdam, the Netherlands[5)]

3-E-WS30-9-O/P

Inhibition of vascular adhesion protein-1 enhances antitumor-effects of immune checkpoint inhibitors by reducing inflammatory tumor microenvironment

Mohammad Abu SAYEM[1)], Tomonari KINOSHITA[1)], Tomonori YAGUCHI[1)], Budiman KHARMA[1)], Kenji Morii[1)], Yukihiko MASHIMA[2)], Yutaka KAWAKAMI[1)]

Division of Cellular Signaling, Institute for Advanced Medical Research, Keio University School of Medicine, Tokyo, Japan[1)], Department of Ophthalmology, Keio University School of Medicine, Tokyo, Japan[2)]

3-E-WS30-11-O/P

Antitumor effects of IL-27 against a mouse chronic myeloid leukemia model

Naoko Orii[1)], Hideaki Hasegawa[1)], Mingli Xu[1)], Izuru Mizoguchi[1)], Hiroki Yoshida[2)], Takayuki Yoshimoto[1)]

Department of Immunoregulation, Institute of Medical Science, Tokyo Medical University, Tokyo, Japan[1)], Division of Molecular and Cellular Immunoscience, Department of Biomolecular Sciences, Faculty of Medicine, Saga University, Saga, Japan[2)]

3-E-WS30-12-O/P

Anti-tumor immunity induced by gemcitabine in murine pancreas metastatic models is mediated by reduction of Gr-1+ cells and increment of cytocidal CD8+ T cells

Keiko Yoshida[1)], Yoshio Sakai[1)], Alessandro Nasti[2)], Masatoshi Yamato[1)], Shuichi Kaneko[1)]

Department of Gastroenterology, Kanazawa University, Kanazawa, Japan[1)], System Biology, Kanazawa University, Kanazawa, Japan[2)], Department of Nephrology, Kanazawa University, Kanazawa, Japan[3)]

3-E-WS30-14-O/P

Chemotherapy-induced senescent cancer cells are good targets for T cell-based anti-cancer immunotherapy

Mamoru Harada, Hitoshi Kotani, Yuichi Iida

Department of Immunology, Shimane University Faculty of Medicine, Shimane, Japana

3-E-WS30-15-O/P

Mitomycin C-induced HTLV-1-infected cell death leads to enhanced phagocytosis by dendritic cells and macrophages compared to Doxorubicin-induced cell death

Undrakh Ganbaatar, Atsuhiko Hasegawa, Rinsaku Miyazawa, Takao Masuda, Mari Kannagi

Department of Immunotherapeutics, Tokyo Medical and Dental University, Tokyo, Japan

WS-31 Cancer immunotherapy-3

14:40 ~ 16:00 Room E

Chairpersons: Yasuharu Nishimura, Hirokazu Matsushita

Anti-tumor immune responses can be enhanced by various strategies. In this WS, novel approaches targeting regulatory T cells, B cells, NKT cells, dendritic cells etc. will be presented. In addition, innovative methods to clone TCR efficiently will be discussed.

3-E-WS31-1-O/P

Immunotherapy targeting effector Treg cells via heat shock protein 90

Ayaka Tsuge[1,2], Y Togashi[1], H Nishikawa[1,2]

Division of Cancer Immunology, Research Institute / Exploratory Oncology Research & Clinical Trial Center (EPOC), Kashiwa, Japan[1], Department of Immunology, Nagoya University Graduate School of Medicine, Nagoya, Japan[2], Department of Gastrointestinal Oncology, National Cancer Center Hospital East, Kashiwa, Japan[3]

3-E-WS31-2-O/P

Therapeutic potential of Tumor-infiltrating B Cells

Shohei Asami[1], Nguyen T Dat[1], Xinying Wang[1], Dominika Papiernik[1], Toshihiro Suzuki[2], Tetsuya Nakatsura[2], Daisuke Kitamura[1]

Molecular Biology, Biomedical Sciences, Tokyo University of Science, Noda, Japan[1], National Cancer Center Hosptial East, Kashiwa, Japan[2]

3-E-WS31-5-O/P

Induction of antigen specific anti-tumor effect by *in vivo* dendritic cell-targeting novel cellular vaccine "NY-ESO-1 expressing artificial adjuvant vector cells (aAVC-NY-ESO-1)"

Satoru Yamasaki, Kanako Shimizu, Shin-ichiro Fujii

Laboratory for Immunotherapy, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan

3-E-WS31-6-O/P

Use of FLIPr as an antigen delivery vector for cancer immunotherapy

Hsin-Wei Chen, Chen-Yi Chiang, Yi-Jyun Chen, Chiao-Chieh Wu

National Health Research Institutes, Miaoli County, Taiwan

3-E-WS31-8-O/P

Local delivery of CCL19-expressing mesenchymal stromal cells suppresses the tumor growth via promoting infiltration of immune cells

Yuichi Iida[1], Rintaro Yoshikawa[2], Akihiko Murata[3], Yumi Matsuzaki[2], Mamoru Harada[1]

Department of Immunology, Shimane University, Izumo, Japan[1], Department of Cancer Biology, Shimane University, Izumo, Japan[2], Department of Immunology, Tottori University, Yonago, Japan[3]

3-E-WS31-9-O/P

A rapid and simple protocol for cDNA clonig of tumor antigen-specific TCR

Hiroshi Hamana[1], Tatsuhiko Ozawa[2], Eiji Kobayashi[2], Kiyomi Shitaoka[1], Atsushi Muraguchi[2], Hiroyuki Kishi[2]

Department of Innovative Cancer Immunotherapy, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Toyama, Japan[1], Department of Immunology, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Toyama, Japan[2]

3-E-WS31-10-O/P

The development of antigen detection system using yeast surface display library

Yoh Ohnuki, Tatsuhiko Ozawa, Hiroshi Hamana, Eiji Kobayashi, Fulian Lyu, Atsushi Muraguchi, Hiroyuki Kishi

Department of immunology, University of Toyama, Toyama, Japan

3-E-WS31-12-O/P

A Phase II study of α-Galactosylceramide-pulsed antigen presenting cells for advanced or recurrent non-small cell lung cancer

Shinichiro Motohashi[1], Toshiko Kamata[1,3], Takahide Toyoda[1,2], Kazuhisa Tanaka[2], Fumie Ihara[1], Mariko Takami[1], Ichiro Yoshino[3], Toshinori Nakayama[2]

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WS-32 Mucosal-Skin Immunity-2

13:10 ~ 14:30 Room F

Chairpersons: Koji Hase, Yoshiyuki Goto

Mucosal tissues are constantly exposed to a variety of foreign antigens. In the gastrointestinal tract, epithelial cells, intraepithelial lymphocytes, and innate and acquired immune cells cooperatively interact and function as a barrier system for maintaining homeostasis of the mucosal interface. Recent studies also highlight the important role of commensal microbes and their metabolites in the regulation of epithelial barrier as well as the mucosal immune system. Dysbiosis of gut microbes is closely associated with dysregulation of the barrier system, leading to systemic translocation of gut microbes and development of inflammatory bowel diseases. This workshop aims to discuss recent findings on the molecular and cellular bases of the barrier establishment through host-microbe interaction at the mucosal surface.

3-F-WS32-1-O/P

Lypd8 suppresses pathogenic bacteria attachment on intestinal epithelia

Ryu Okumura[1,2], Kiyoshi Takeda[1,2]

Department of Microbiology and Immunology, Graduate School of Medicine, Osaka University, Osaka, Japan[1], WPI Immunology Frontier Research Center, Osaka University, Osaka, Japan[2]

3-F-WS32-3-O/P

The anti-microbial peptide CRAMP is essential for colon homeostasis by maintaining microbiota balance

Teizo Yoshimura[1,2], Mairi H. McLean[2,3], Amiran K. Dzutsev[2], Xiaohong Yao[4], Keqiang Chen[2], Wanghua Gong[5], Jiamin Zhou[2], Lino Tessarollo[6], Scott K. Durum[2], Giorgio Trinchieri[2], Xiu-wu Bian[4], Ji Ming Wang[2]

Department of Pathology and Experimental Medicine, Okayama University, Okayama, Japan[1], Cancer and Inflammation Program, Center for Cancer Research, National Cancer Institute, Frederick, USA[2], School of Medicine, Medical Sciences & Nutrition, University of Aberdeen, Aberdeen, UK[3], Institute of Pathology and Southwest Cancer Center, Third Military Medical University, Chonqing, China[4], Basic Science Program, Leidos Biomedical Research, Inc., Frederick National Laboratory for Cancer Research, Frederick, USA[5], Mouse Cancer Genetics Program, Center for Cancer Research, National Cancer Institute, Frederick, USA[6]

3-F-WS32-5-O/P

Sox8 is essential for the differentiation of M cells and antigen-specific IgA response

Nobuhide Kobayashi[1], Shunsuke Kimura[2], Yutaka Nakamura[1], Takashi Kanaya[3], Tsuneyasu Kaisho[4], Hiroshi Ohno[3], Koji Hase[1]

Graduate School of Pharmaceutical Sciences, Keio University, Tokyo, Japan[1], Graduate School of Medicine, Hokkaido University, Sapporo, Japan[2], RIKEN Center for Integrative Medical Sciences, Kanagawa, Japan[3], Institute of Advanced Medicine, Wakayama Medical University, Wakayama, Japan[4]

3-F-WS32-6-O/P

Osteoprotegerin-dependent M-cell self-regulation balances gut infection and immunity

Shunsuke Kimura[1], Yutaka Nakamura[2], Nobuhide Kobayashi[2], Tsuneyasu Kaisho[3], Koji Hase[2]

Graduate School of Medicine, Hokkaido University, Sapporo, Japan[1], Division of Biochemistry, Graduate School of Pharmaceutical Sciences, Keio University, Tokyo, Japan[2], Department of Immunology, Institute of Advanced Medicine, Wakayama Medical University, Wakayama, Japan[3]

3-F-WS32-9-O/P

Intestinal epithelial cell-derived IL-15 supports the homeostasis of intraepithelial lymphocytes

Yuanbo Zhu, Guangwei Cui, Akihiro Shimba, Shinya Abe, Takahiro Hara, Shizue Tani-ichi, Koichi Ikuta

Laboratory of Immune Regulation, Department of Virus Research, Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan

3-F-WS32-14-O/P

Suppression of IL-17F, but not of IL-17A, provides protection against colitis by inducing T_{reg} cells through modification of intestinal microbiota

Ce Tang[1], Shigeru Kakuta[2], Yoichiro Iwakura[1]

Center for Animal Disease Models, Research Institute for Biomedical Sciences, Tokyo University of Science, Noda-shi, Japan[1], Center for Experimental Medicine and Systems Biology, Institute of Medical Science, The University of Tokyo, Tokyo, Japan[2]

3-F-WS32-15-O/P

Colonic Tregs migrated from inflamed colon proliferate in draining lymph node. Simultaneous detection of cellular movement and proliferation

Michio Tomura[1], Mizuki UEDA[1], Ryoyo IKEBUCHI[1,2], Taiki MORIYA[1], Ippei YASUDA[1], Yutaka KUSUMOTO[1]

Laboratory of Immunology, Faculty of Pharmacy, Osaka Ohtani University, Tondabayash, Japan[1], Research Fellow of Japan Society for the Promotion of Science, Tokyo, Japan[2]

3-F-WS32-16-O/P

Microbiota-dependent and -independent induction of colonic regulatory T cells by butyrate

Hiroki Negishi[1,2], Tadashi Takeuchi[1], Eiji Miyauchi[1], Shu Shimamoto[3], Akinobu Matsuyama[4], Hiroshi Ohno[1,2]

Laboratory for Intestinal Ecosystem, Center for Integrative Medical Sciences, RIKEN, Kanagawa, Japan[1], Department of Medical Life Science, Yokohama City University, Kanagawa, Japan[2], R&D Headquarters, Daicel Corporation, Tokyo, Japan[3], New Business Development, Daicel Corporation, Tokyo, Japan[4]

WS-33 Mucosal-Skin Immunity-3

14:40 ~ 16:00 Room F

Chairpersons: Reiko Shinkura, Keiichiro Suzuki

Mucosal tissues are inhabited with trillions of commensal microbiota. Technical advances of the methods including 16S, RNA-Seq, proteomics and metabolome analysis rapidly disclose the relationship between the members of commensal microbiota and the immune system. However, we still do not succeed to obtain a clear understanding of the mechanisms of mucosal immune responses due to its enormous heterogeneity. Here we will focus on the topics that tackle the complex dialog among immune cells, humoral factors such as IgA and mucosal microbial community. We will find a novel technique that may dramatically enhance the resolution of the microbial analysis. Half of the topics will discuss about novel responses of gut immune system to commensal microbiota in neonates and adult homeostasis. Finally, we will extend the scope of our knowledge of mucosal immunology into outside of the gut tissues, such as oral cavity, lung and kidneys. These presentations will be exciting to all the specialists in mucosal immunology field as well as all the immunologists and also clinicians.

3-F-WS33-1-O/P

An applicational study of a novel developed method BarBIQ: analysis of microbiota in different locations of a murine cecum

Jianshi Jin[1)], Reiko Yamamoto[1)], Tadashi Takeuchi[2)], Eiji Miyauchi[2)], Hiroshi Ohno[2)], Katsuyuki Shiroguchi[1,2,3)]

RIKEN Center for Biosystems Dynamics Research (BDR), Suita, Osaka, Japan[1)], RIKEN Center for Integrative Medical Sciences (IMS), Yokohama, Japan[2)], JST PRESTO, Saitama, Japan[3)]

3-F-WS33-3-O/P

The disturbance of maternal microbial environment affects the intestinal immune development in offspring

Kanae Niimi[1)], Katsuki Usami[1)], Hisashi Aso[1)], Tomonori Nochi[1,2)]

International Education and Research Center for Food and Agricultural Immunology, Graduate School of Agricultural Science, Tohoku University, Sendai, Japan[1)], International Research and Development Center for Mucosal Vaccine, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[2)]

3-F-WS33-4-O/P

Gut microbial metabolite acetate tunes IgA reactivity toward commensal microbes to maintain mucosal homeostasis

Tadashi Takeuchi[1,2)], Eiji Miyauchi[1)], Shu Shimamoto[3)], Akinobu Matsuyama[4)], Hiroshi Ohno[1)]

Laboratory for Intestinal Ecosystem, RIKEN Center for Integrative Medical Sciences, Yokohama, Japan[1)], Graduate School of Medicine, Keio University, Tokyo, Japan[2)], Daicel Corporation, R&D Headquarters, Tokyo, Japan[3)], Daicel Corporation, New Business Development, Tokyo, Japan[4)]

3-F-WS33-5-O/P

Induction of IFNγ-producing CD8 T cells by human derived-commensal bacteria

Takeshi Tanoue[1,2)], Ashwin Skelly[1)], Satoru Morita[1)], Seiko Narushima[1,2)], Koji Atarashi[1,2)], Kenya Honda[1,2)]

Department of Microbiology and Immunology, Keio University School of Medicine, Tokyo, Japan[1)], Laboratory for Gut Homeostasis, RIKEN IMS, Yokohama, Japan[2)]

3-F-WS33-6-O/P

Role of immunoglobulin A in the altered gut microbiota associated with obesity and insulin resistance

Misato Matsui[1,2)], Takaharu Sasaki[2)], Hiroshi Ohno[1,2)]

Department of Medical Life Science, Graduate School of Medical Life Science, Yokohama City University, Yokohama, Japan[1)], Laboratory for Intestinal Ecosystem, RIKEN Center for Integrative Medical Sciences, Yokohama, Japan[2)]

3-F-WS33-10-O/P

Impaired salivary SIgA antibodies elicit oral dysbiosis and subsequent induction of alveolar bone loss

Emily Chang[1)], Ryoki Kobayashi[2)], Mio Hagiwara[1)], Kohtaro Fujihashi[3,4)], Masamichi Komiya[1)], Tomoko Kurita-Ochiai[2)]

Department of Oral surgery, Nihon University, School of Dentistry at Matsudo, Chiba, Japan[1)], Department of Infection and Immunology, Nihon University, School of Dentistry at Matsudo, Chiba, Japan[2)], International Research and Development Center for Mucosal Vaccines, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan[3)], Department of Pediatric Dentistry, The University of Alabama at Birmingham, Birmingham, U.S.A.[4)]

3-F-WS33-11-O/P

Pathogenic activity of secretory IgA in lung fibrosis

Maho Suzukawa[1)], Sayaka Arakawa[1,2)], Koichi Kobayashi[1,2)], Hideaki Nagai[1)], Takahide Nagase[2)], Shigeto Tohma[1)], Ken Ohta[1)]

National Hospital Organization Tokyo National Hospital, Tokyo, Japan[1)], Department of Respiratory Medicine, The University of Tokyo, Tokyo, Japan[2)]

3-F-WS33-12-O/P

DAO controls IgA production through both T cell dependent and independent pathway

Masataka Suzuki

Department of Pharmacology, Keio University, School of Medicine, Tokyo, Japan

WS-34 Tumor immunity-1:Tumor Microenvironment and Immune Suppression 13:10 ~ 14:30 Room G

Chairpersons: Heiichiro Udono, Kenichiro Seino

Unique features of tumor microenvironment benefit cancers to grow through evading attack of T cell immunity. Importantly, most of the immune suppression mechanism are attributed to various factors derived from cancers. A number of novel inhibitory factors together with well known ones will be presented, and discussed with the possible underlying mechanism of the immune suppression. Some factors might directly downregulate cancer-specific T cell functions and others might indirectly dampen the functions through control of the innate immunity and/or myeloid cells. In addition, inhibitory factors derived from host cells including dendritic cells and macrophages are discussed, which will be one of the main topic in session W-35.

3-G-WS34-1-O/P

Role of cancer cell-derived HMGB1 in tumor progression

Hideyuki Yanai, Tadatsugu Taniguchi

Institute of Industrial Science, University of Tokyo, Tokyo, Japan

3-G-WS34-2-O/P

Identification of a host factor for the improvement of immune checkpoint blockade therapy for hepatocellular carcinoma

Amane Kimura, Masao Honda, Kazuhisa Murai, Shuichi Kaneko

Department of Gastroenterology, Graduate School of Medicine, Kanazawa University, Kanazawa, Japan

3-G-WS34-3-O/P

Roles of ganglioside GD3 in the regulation of microenvironment of gliomas

Pu Zhang[1,2], Okiru Komine[4], Yuki Ohkawa[2], Yuhsuke Ohmi[2], Robiul H Bhuiyan[2], Akira Kato[3], Koji Yamanaka[4], Keiko Furukawa[3], Toshihiko Wakabayashi[3], Tetsuya Okajima[1], Koichi Furukawa[1,2]

Department of Biochemistry II, Nagoya University Graduate School of Medicine, Nagoya, JAPAN[1], College of Life and Health Sciences, Chubu University, Kasugai, Japan[2], Department Neurosurgery, Nagoya University Graduate School of Medicine, Nagoya, Japan[3], Research Institute of Environmental Medicine, Nagoya University Graduate School of Medicine, Nagoya, Japan[4]

3-G-WS34-4-O/P

Tumor suppressors of the DAPK family regulate anti-tumor innate immunity through the STING-type I Interferon pathway

Mariko Takahashi[1], Chan-Wang J Lio[1], Martin Steger[2], Matthias Mann[2], Sonia Sharma[1]

La Jolla Institute for Allergy and Immunology, La Jolla, USA[1], Max Planck Institute of Biochemistry, Munich, Germany[2]

3-G-WS34-5-O/P

Evaluation of interleukin 34 in the tumor microenvironment of hepatocellular carcinoma

Nanumi Han[1], Muhammad Baghdadi[2], Haruka Wada[2], Ken-ichiro Seino[2]

Immunobiology, Hokkaido University Graduate School of Medicine, Sapporo, Japan[1], Immunobiology, Institute for Genetic Medicine, Hokkaido University, Sapporo, Japan[2]

3-G-WS34-7-O/P

L-34 promotes metastasis in a murine model of ovarian cancer

Naoki Hama, Muhammad Baghdadi, Takuto Kobayashi, Haruka Wada, Ken-ichiro Seino

Division of immunobiology, Institute for Genetic Medicine, Hokkaido univercity, Hokkaido, Japan

3-G-WS34-13-O/P

Involvement of CD300a in the tumor growth

Yuta NAKAZAWA[1], Chigusa Nakahashi-Oda[1], Akira Shibuya[2]

Department of Immunology, University of Tsukuba, Ibaraki, Japan[1], Department of Immunology,Life science Center of Survival Dynamics, Tsukuba Advanced Research Alliance (TARA), Faculty of Medicine, University of Tsukuba, Ibaraki, Japan[2]

3-G-WS34-14-O/P

CyclinJ as a Novel Regulator in Modulating Tumor-associated Macrophage

Yee Kien Chong, Osamu Takeuchi

Lab of Infection and Prevention, Graduate School of Medicine, Kyoto University, Kyoto, Japan

WS-35 Tumor immunity-2: Effectore cells in Tumor Immunity

14:40 ~ 16:00 Room G

Chairpersons: Toshihiko Torigoe, Masahisa Jinushi

Cancer-specific T cells not only fight against cancers but also facilitate growth and/or metastasis of the tumors in certain conditions. The negative impact of tumor infiltrating T cells on cancer immunity will be discussed. As well known, dendritic cells (DCs) control T cell immunity positively and negatively depending on the context. How immunogenic cell death and/or pathogen-derived factors affect DCs function in terms of generating CTLs will also be discussed. Although signaling pathways of native CD8T lymphocytes are well characterized, those of chimeric antigen receptor T cells (CAR-T) are poorly understood. This will be focused in this session, along with CTL epitopes derived from long non-coding RNAs. In addition, transcriptional regulation in tumor infiltrating Treg, the main negative regulator for tumor immunity, will also be discussed.

3-G-WS35-1-O/P

A new mode of cancer-specific CTL responses against an HLA-A24 peptide encoded by a long non-coding RNA

Yasuhiro Kikuchi, Takayuki Kanaseki, Serina Tokita, Toshihiko Torigoe

Sapporo Medical University, Sapporo, Japan

3-G-WS35-4-O/P

Molecular imaging of the hCD19 CAR signalosomes, "CAR microclusters"

Noriko Yanase[1)], Hiroaki Machiyama[1)], Ei Wakamatsu[1)], Hiroko Toyota[1)], Masae Furuhata[1)], Kikumi Hata[1)], Maksim Mamonkin[2)], Malcolm K Brenner[2)], Tadashi Yokosuka[1)]

Department of Immunology, Tokyo Medical University, Tokyo, Japan[1)], Center for Cell and Gene Therapy, Baylor College of Medicine, Houston, USA[2)]

3-G-WS35-9-O/P

Sipa1 deficiency unleashes a host-immune mechanism eradicating chronic myelogenous leukemia-initiating cells

Yan Xu[1,2)], Satoshi Ikeda[1)], Kentaro Sumida[1)], Ryusuke Yamamoto[1,2)], Hiroki Tanaka[1)], Nagahiro Minato[1,2)]

DSK Project, Medical Innovation Center, Graduate School of Medicine, Kyoto University, Kyoto, Japan[1)], Department of Immunoloy and Cell Biology, Graduate School of Medicine, Kyoto University, Kyoto, Japan[2)]

3-G-WS35-12-O/P

Induction of tumor-specific CD8+ CTLs from naïve human T cells by *Mycobacterium*-derived mycolic acid and lipoarabinomannan-stimulated dendritic cells

Hidemi Takahashi[1)], Yuji Tomita[1,2)], Eri Watanabe[1)], Masumi Shimizu[1)], Yukihiro Kondo[2)]

Department of Microbiology and Immunology, Nippon Medical School, Tokyo, Japan[1)], Department of Urology, Nippon Medical School, Tokyo, Japan[2)]

3-G-WS35-13-O/P

Regulation of CCL5 expression by Runx/CBFβ transcription factor complexes and long-distance enhancers

Wooseok Seo, Ichiro Taniuchi

Laboratory for Transcriptional Regulation, IMS, Riken Yokohama, Yokohama, Japan

3-G-WS35-14-O/P

Distinct transcriptional regulation in tumor-infiltrating regulatory T cells

Yujiro Kidani[1,2,3)], Yohko Kitagawa[1,4)], Nganari Ohkura[1,2)], Shimon Sakaguchi[1,4)]

Immunology Frontier Research Center, Osaka University, Suita, Japan[1)], Graduate School of Medicine, Osaka University, Suita, Japan[2)], Pharmaceutical Research Division, Shionogi & CO., LTD., Toyonaka, Japan[3)], Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan[4)]

3-G-WS35-15-O/P

Immunogenic tumor cell death accelerates tumor infiltrating dendritic cell migration and leads to tumor regression

Taiki Moriya[1)], Mizuki Ueda[1)], Ippei Yasuda[1,3)], Ryoyo Ikebuchi[1,2)], Yutaka Kusumoto[1)], Michio Tomura[1)]

Laboratory of Immunology, Faculty of Pharmacy, Osaka Ohtani university, Tondabayashi, Japan[1)], Research Fellow of Japan Society for the Promotion of Science, Tokyo, Japan[2)], Department of Obstetrics and Gynecology, University of Toyama, Toyama, Japan[3)]

3-G-WS35-16-O/P

IL-6-deficient condition augments anti-tumor effector cells and facilitates the efficacy of cancer immunotherapy

Hidemitsu Kitamura[1)], Yosuke Ohno[2)], Yujiro Toyoshima[1,2)], Huihui Xiang[1,2)], Shinichi Hashimoto[3)], Kazuho Ikeo[4)], Shigenori Homma[2)], Hideki Kawamura[2)], Norihiko Takahashi[2)], Akinobu Taketomi[2)]

Division of Functional Immunology, Institute for Genetic Medicine, Hokkaido University, Sapporo, Japan[1)], Department of Gastroenterological Surgery I, Hokkaido University Graduate School of Medicine, Sapporo, Japan[2)], Graduate School of Medical Sciences, Kanazawa University, Kanazawa, Japan[3)], Center for Information Biology, National Institute of Genetics, Mishima, Japan[4)]

WS-36 Bacterial / mycofungal / parasite infection

13:10 ~ 14:30 Room H

Chairpersons: Hiroki Yoshida, Hiromitsu Hara

While our immune system has developed a variety of cellular and molecular mechanisms to fight against pathogens, they also have evolved various strategies to ingeniously elude the elimination by the host immunity. Therefore, understanding of the host-pathogen interactions is essential for the development of novel therapeutic and preventive strategies against infections. In this workshop, we will focus on and discuss cutting edge topics on immune evasion/modification mechanisms by pathogenic bacteria, fungi and parasites. We expect active and hot discussion by the participants.

3-H-WS36-1-O/P

Porphyromonas gingivalis negatively regulates host immune responses through inhibitory receptor, Siglec

Yasunobu Miyake[1)], Sho Yamasaki[2)], Hiroki Yoshida[1)]

Faculty of Medicine, Saga University, Saga, Japan[1)], Osaka University, Osaka, Japan[2)]

3-H-WS36-5-O/P

The IL-6/Mincle axis in immature myeloid cells is critical to protect against severe invasive group A *Streptococcus* infection

Takayuki Matsumura[1)], Sho Yamasaki[2)], Manabu Ato[3)], Yoshimasa Takahashi[1)]

Department of Immunology, National Institute of Infectious Diseases, Tokyo, Japan[1)], Division of Molecular Immunology, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[2)], Department of Mycobacteriology, National Institute of Infectious Diseases, Tokyo, Japan[3)]

3-H-WS36-7-O/P

Mycolic acid induces the suppression of host immune responses through inhibitory receptors

Naoya Nishimura[1,2)], Sho Yamasaki[1,3)]

Molecular Immunology, Research Institute for Microbial Diseases, Osaka, Japan[1)], Department of Medicine and Biosystemic Science, Kyushu University Faculty of Medicine, Fukuoka, Japan[2)], Molecular Immunology, Immunology Frontier Research Center, Osaka, Japan[3)]

3-H-WS36-8-O/P

A molecular mechanism of inflammasome suppression by mycobacterial virulence factor

Giichi Takaesu[1,2)], Tomomi Kurane[2)], Masayuki Umemura[1,2)], Goro Matsuzaki[1,2)]

Tropical Biosphere Research Center, University of the Ryukyus, Okinawa, Japan[1)], Department of Host Defense, Graduate School of Medicine, University of the Ryukyus, Okinawa, Japan[2)]

3-H-WS36-13-O/P

Interplay between diet and gut microbiota mediates colonization resistance against *Clostridium difficile*

Kyosuke Yakabe[1)], Shinji Fukuda[2)], Koji Hase[1)], Yun-Gi Kim[1)]

Division of Biochemistry, Keio University Faculty of Pharmacy, Tokyo, Japan[1)], Keio University Institute for Advanced Science, Tokyo, Japan[2)]

3-H-WS36-17-O/P

Analysis of novel *Shigella* effector mechanism that regulate host cell death

Hiroshi Ashida, Toshihiko Suzuki

Bacterial Infection and Host Response, Tokyo Medical and Dental University, Tokyo, Japan

3-H-WS36-27-O/P

RIFINs of *Plasmodium falciparum* target multiple inhibitory receptors for immune evasion

Akihito Sakoguchi[1,2)], Fumiji Saito[3)], Kouyuki Hirayasu[4)], Kyoko Shida[2)], Masako Kohyama[1,2)], Tadahiro Suenaga[1,2)], Shiroh Iwanaga[5)], Toshihiro Horii[6)], Hisashi Arase[1,2)]

Department of Immunochemistry, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan[1)], Department of Immunochemistry, WPI Immunology Frontier Research Center, Osaka University, Osaka, Japan[2)], Department of Immunology, Kanazawa Medical University, Ishikawa, Japan[3)], Department of Immunology, Kanazawa University, Ishikawa, Japan[4)], Department of Environmental Parasitology, Tokyo Medical and Dental University, Tokyo, Japan[5)], Research Institute for Microbial Diseases, Department of Molecular Protozoology, Osaka University, Osaka, Japan[6)]

WS-37 Human Immunology: Pathogenesis and Immunointervention

14:40 ~ 16:00 Room H

Chairpersons: Tomohiro Morio, Fumihiko Ishikawa

Study on pathogenesis of immunological disorders in human has been facilitated by novel technologies such as massive parallel sequencing, gene-editing techniques, detailed immune-phenotyping, sophistication of humanized mice model, and multi-OMICs approach. Novel immunomodulatory drugs have been developed in recent years; and the novel therapeutic measures can now be directly assessed in various human disease models. Participants of this workshop will re-realize the advance in research in such fields as responsible gene search for inborn errors of immunity, dissection of human immune cell development and function with novel techniques, and biomarker search in human immunological disorders. In vitro model system does not always reflect in vivo human immune system and can be further optimized and sophisticated. We hope to focus on detailed immune-pathophysiology of human diseases in this workshop. We will also discuss current and future methods for dissection of human immune system in health and diseases and to discuss techniques for evaluation of potential immuno-interventions.

3-H-WS37-1-O/P

APRIL deficiency as a cause of common variable immunodeficiency

Tzu-wen Yeh[1)], Tsubasa Okano[1)], Keisuke Okamoto[1)], Motoi Yamashita[1)], Takehiro Takashima[1)], Noriko Mitsuiki[1)], Satoshi Okada[2)], Hirokazu Kanegane[1)], Kohsuke Imai[1)], Tomohiro Morio[1)]

Tokyo Medical and Dental University, Tokyo, Japan[1)], Hiroshima University, Hiroshima, Japan[2)]

3-H-WS37-4-O/P

Analysis of mice carrying a novel mutation in a proteasome subunit gene identified in an autoinflammatory disease patient

Toshiya Ozasa[1)], Hiroaki Hemmi[1)], Akira Kinoshita[2)], Takashi Kato[1)], Takashi Orimo[1)], Izumi Sasaki[1)], Yuri Fukuda-Ohta[1)], Noriko Kinjo[3)], Koh-Ichiro Yoshiura[2)], Tsunehiro Mizushima[4)], Nobuo Kanazawa[5)], Tsuneyasu Kaisho[1)]

Department of Immunology, Institute for Advanced Medicine, Wakayama Medical University, Wakayama, Japan[1)], Department of Human Genetics, Atomic Bomb Disease Institute, Nagasaki University, Nagasaki, Japan[2)], Department of Child Health and Welfare (Pediatrics), Graduate School of Medicine, University of the Ryukyus, Nishihara, Japan[3)], Picobiology Institute, Graduate School of Life Science, University of Hyogo, Kamigori, Japan[4)], Department of Dermatology, Wakayama Medical University, Wakayama, Japan[5)]

3-H-WS37-5-O/P

Identification of *POGLUT1* as the effector gene in human primary biliary cholangitis (PBC) susceptibility locus chromosome 3q13.33

Yuki Hitomi[1)], Yoshihiro Aiba[2)], Minoru Nakamura[2,3)]

Department of Human Genetics, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan[1)], Clinical Research Center, Nagasaki Medical Center, Omura, Japan[2)], Department of Hepatology, Nagasaki University, Omura, Japan[3)]

3-H-WS37-6-O/P

*HLA-B*39:01* is a modifier of Familial Mediterranean Fever (FMF) in Japanese population

Michio Yasunami[1,2)], Hitomi Nakamura[2,3)], Minoru Nakamura[3)], Kiyoshi Migita[3,4)]

Life Science Institute, Saga-Ken Medical Centre Koseikan, Saga, Japan[1)], Institute of Tropical Medicine, Nagasaki University, Nagasaki, Japan[2)], NHO Nagasaki Medical center, Omura, Japan[3)], Fukushima Medical University, Fukushima, Japan[4)]

3-H-WS37-9-O/P

High-dimensional immune cell profiling in CMV anterior uveitis cases reveals an NK population non-responsive against CMV pp65

Nobuyo Yawata[1,2,3,4)], Jay Siak[3,5)], Soon Phaik Chee[3,4,5,6)], Makoto Yawata[6)], Yoichi Kawano[1)], Kohei Sonoda[2)]

Ophthalmology, Department of Medicine, Fukuoka Dental College, Fukuoka, Japan[1)], Department of Ophthalmology, Kyushu Univeristy, Fukuoka, Japan[2)], Ocular Inflammation and Immunology, Singapore Eye Research Institute, Singapore, Singapore[3)], Ophthalmology & Visual Sciences, Duke-NUS Medical School, Singapore, Singapore[4)], Ocular Immunology and Inflammation, Singapore National Eye Centre, Singapore, Singapore[5)], National University of Singapore, Singapore, Singapore[6)]

3-H-WS37-14-O/P

A new humanized mouse model to investigate large granular lymphocytosis in CML patients and immune-modulating effects of dasatinib

Taeko Hayakawa[1)], Tomonori Yaguchi[1)], Daiki Karigane[2)], Eri Yamazaki[2)], Ikumi Katano[3)], Mamoru Ito[3)], Shinichiro Okamoto[2)], Yutaka Kawakami[1)]

Division of Cellular Signaling, Institute for Advanced Medical Research, Keio University School of Medicine, Tokyo, Japan[1)], Division of Hematology, Department of Medicine, Keio University School of Medicine, Tokyo, Japan[2)], Central Institute for Experimental Animals, Kanagawa, Japan[3)]

3-H-WS37-22-O/P

Human NK cell development in hIL-7 and hIL-15 knock-in NOD/SCID/IL2rgKO mice

Masashi Matsuda[1)], Rintaro Ono[2)], Tomonori Iyoda[3)], Kanako Shimizu[3)], Daisuke Yamada[1)], Osamu Ohara[4,5)], Masaru Taniguchi[6)], Haruhiko Koseki[1)], Shin-ichiro Fujii[3)], Fumihiko Ishikawa[2)]

Laboratory for Developmental Genetics, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[1)], Laboratory for Human Disease Models, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[2)], Laborator y for Immunotherapy, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[3)], Laboratory for Integrative Genomics, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[4)], Department of Technology Development, Kazusa DNA Research Institute, Kisarazu, Japan[5)], Laboratory for Immune regulation, Center for Integrative Medical Sciences, RIKEN, Yokohama, Japan[6)]