

Program

September 12 (Monday)

Main hall(1614)

8:45 ~ 8:50 Opening Remark

The 29th Annual Meeting of the Japanese Society of Immunotoxicology

President: Hiroyuki Kojima

The 79th Meeting of Allergy and Immunotoxicology study group of Japan Society for Occupational Health

Cordinator: Takahiko Yoshida

8:50 ~ 10:15 Students and Young Scientists Session <OY-01 ~ OY-10>

Chairperson: Michiyo Kubo (Chugai Pharmaceutical Co., Ltd.)

Rie Yanagisawa (National Institute for Environmental Studies),

OY-01 Bisphenol A induces allergic airway inflammation through the activation of ocular immune systems

○Tatsuo Ueda^{1,3}, Takumi Adachi¹, Eiko Koike², Rie Yanagisawa², Kenzo Tsuzuki³, Etsushi Kuroda¹

¹)Department of Immunology, School of Medicine, Hyogo Medical University, ²)Health and Environmental Risk Division, National Institute for Environmental Studies, ³)Department of Otorhinolaryngology-Head and Neck Surgery, School of Medicine, Hyogo Medical University

OY-02 Induction of antigen-specific immune responses by interleukin-33 as a mucosal adjuvant

○Amane Mukai¹, Koubun Yasuda¹, Shiori Egashira¹, Takumi Adachi¹, Kazufumi Matsushita¹,
Etsushi Kuroda¹

¹)Department of Immunology, School of Medicine, Hyogo Medical University

OY-03 Effects of particulate matters on the expression and function of COVID-19-related proteins

○Issei Omori¹, Raga Ishikawa¹, Akiko Honda^{1,2}, Tomoya Sagawa^{2,3}, Hirohisa Takano^{1,2}

¹Grad Sch of Eng, Kyoto Univ, ²Grad Sch of Global Environ Studies, Kyoto Univ, ³Inflammation and Immunology, Grad Sch of Med Sci, Kyoto Pref Univ of Med

OY-04 Activation of type I Interferon signaling in dendritic cells and T cells of the mouse model of COPA syndrome

○Takashi Kato ¹, Ryota Yamasaki ¹, Naoko Wakaki-Nishiyama ¹, Izumi Sasaki ¹, Shiori Kaji ², Kohei Murakami ³, Hiroaki Hemmi ³, Yoshitaka Honda ^{4,5,6}, Kazushi Izawa ⁶, Yoshiro Otsuki ⁷, Tadashi Matsubayashi ⁸, Ryuta Nishikomori ⁹, Tsuneyasu Kaisho ¹

¹Department of Immunology, Institute of Advanced Medicine, Wakayama Medical University, ²Second Department of Internal Medicine, Wakayama Medical University, ³Laboratory of Immunology, Faculty of Veterinary Medicine, Okayama University of Science, ⁴Institute for the Advanced Study of Human Biology (ASHBi), Kyoto University, ⁵Department of Immunology, Kyoto University Graduate School of Medicine. ⁶Department of Pediatrics, Kyoto University Graduate School of Medicine, ⁷Department of Pathology, Seirei Hamamatsu General Hospital, ⁸Department of Pediatrics, Seirei Hamamatsu General Hospital, ⁹Department of Pediatrics and Child Health, Kurume University School of Medicine

OY-05 Immunological characterization of tissue resident macrophages by using genetically modified mouse

○Shiori Kaji¹, Izumi Sasaki², Takashi Kato², Naoko Nishiyama², Asumi Yamamoto², Kazuki Wakimura², Masayuki Kitano¹, Tsuneyasu Kaisho²

¹Second Department of Internal Medicine, Wakayama Medical University, ²Department of Immunology, Institute of Advanced Medicine, Wakayama Medical University

OY-06 Prediction of the safety and efficacy of STING ligands administration in the nonhuman primate model

○Shokichi Takahama ¹, Kazuya Ishige ², Takuto Nogimori ¹, Yasuhiro Yasutomi ³, Victor Appay ^{1,4},

Takuya Yamamoto ^{1,4, 5, 6)}

¹⁾Laboratory of Immunosenescence, Center for Vaccine and Adjuvant Research, National Institutes of Biomedical Innovation, Health and Nutrition, Osaka, Japan, ²⁾ Biochemicals Division, Yamasa Corporation, Chiba, Japan, ³⁾ Laboratory of Immunoregulation and Vaccine Research, Tsukuba Primate Research Center, National Institutes of Biomedical Innovation, Health and Nutrition, Ibaraki, Japan, ⁴⁾ Université de Bordeaux, CNRS UMR 5164, INSERM ERL 1303, ImmunoConcEpT, 33000 Bordeaux, France, ⁵⁾ Laboratory of Aging and Immune Regulation, Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, Japan, ⁶⁾ Department of Virology and Immunology, Graduate School of Medicine, Osaka University, Osaka, Japan

OY-07 Low-dose oral exposure to Citrinin significantly exacerbates the pathophysiology of psoriasis in a mouse model via activating type 2 conventional dendritic cell

○Hiroki Yamaguchi¹⁾, Naoki Iwashita^{1,2)}, Yoshiichi Takagi^{1,3)}, Masayo Kushiro⁴⁾, Tomoki Fukuyama¹⁾

¹⁾ Laboratory of Veterinary Pharmacology, School of Veterinary Medicine, Azabu University, ²⁾ Bioalch,

³⁾ Japan SLC, Inc., ⁴⁾ Institute of Food Research, National Agriculture and Food Research Organization

OY-08 Subchronic oral exposure to Fumonisin B2 aggravates the cutaneous inflammation in a mouse model of atopic dermatitis via inhibiting ceramide synthesis

○Mana Ando¹⁾, Hiroki Yamaguchi ¹⁾, Ai Morimoto ¹⁾, Naoki Iwashita ²⁾, Yoshiichi Takagi ³⁾, Tomoya Yoshinari ⁴⁾, Tomoki Fukuyama ¹⁾

¹⁾ Laboratory of Veterinary Pharmacology, School of Veterinary Medicine, Azabu University, ²⁾ Bioalch,

³⁾ Japan SLC, Inc., ⁴⁾ National Institute of Health Sciences

OY-09 Macrophage responses to single-walled carbon nanotubes and multi-walled carbon nanotubes

○Shin-Ichiro Yamaguchi¹⁾, Qilin Xie²⁾, Miki Kuroiwa¹⁾, Kota Kasahara²⁾, Masafumi Nakayama¹⁾

¹⁾Grad. Sch. Pharm. Sci., Ritsumeikan Univ., ²⁾Grad. Life Sci., Ritsumeikan Univ.

OY-10 Tim4 recognizes carbon particles

○Miki Kuroiwa¹⁾, Shin-Ichiro Yamaguchi¹⁾, Yoshinobu Kato¹⁾, Hisaya Akiba²⁾, Masafumi Nakayama¹⁾

¹⁾Pharm Sci, Ritsumeikan Univ, ²⁾Juntendo Univ Sch Med

10:30 ~ 11:00 Oral Presentation ① <ON-01, ON-02>

Chairperson: Izumi Sasaki (Wakayama Medical University)

ON-01 Ni-binding protein CXCL4 and vitamin D3 analogue augment sublingual immunotherapy for Ni allergy

○Toshinobu Kuroishi¹⁾, Kanan Bando^{1,2)}, Shunji Sugawara¹⁾

¹⁾Division of Oral Immunology, ²⁾Division of Orthodontics and Dentofacial Orthopedics, Tohoku University Graduate School of Dentistry

ON-02 ATP can regulate inflammatory neutrophil endocytosis

○Duo Wang¹⁾, Zirui Zeng²⁾, Ryuji Okazaki¹⁾, Yasuhiro Yoshida³⁾

¹⁾Department of Radiobiology and Hygiene Management, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan, ²⁾First Department of Internal Medicine, School of Medicine, University of Occupational & Environmental Health, Kitakyushu, Japan,

³⁾Department of Immunology and Parasitology, School of Medicine, University of Occupational and Environmental Health, Japan

11:10 ~ 11:55 Educational Lecture 1 <EL-01>

Chairperson: Hiroyuki Kojima (Health Sciences University of Hokkaido)

EL-01 How far can cancer be prevented?

○Masahiro Asaka

President, Health Sciences University of Hokkaido

11:55 ~ 13:00 <Lunch time>

13:00 ~ 13:35 General Assembly

13:40 ~ 16:10 Symposium: “Environment, Immunity and Disease” <S-01 ~ S-06>

Chairperson: Masashi Tachibana (Graduate School of Pharmaceutical Sciences, Osaka University)

Shigeki Aoki (Graduate School of Pharmaceutical Sciences, Chiba University)

S-01 Multigenerational effects and epigenetic modification changes by gestational inorganic arsenic exposure

○Takehiro Suzuki¹⁾, Kazuyuki Okamura¹⁾, Keiko Nohara¹⁾

¹⁾ Health and Environmental Risk Division, National Institute for Environmental Studies

S-02 Understanding and controlling environmental particle-induced inflammatory diseases

○Naoki Takemura

Graduate School of Pharmaceutical Sciences, Osaka University

S-03 Suppressive mechanisms on autoimmune diseases by helminth infection

○Chikako Shimokawa

Department of Parasitology, National Institute of Infectious Diseases (NIID)

S-04 Anaphylaxis to immune checkpoint inhibitors exacerbated by cancer pathology: analysis of a mouse model

○Hiroto Hatakeyama

Graduate School of Pharmaceutical Sciences, Chiba University

S-05 Off-target cytotoxicity of antibody-drug conjugates

○Michihiko Aoyama¹⁾, Minoru Tada¹⁾, Akiko Ishii-Watabe¹⁾

¹⁾ National Institute of Health Sciences

S-06 Involvement of Fc receptors in the immunotoxicity of biopharmaceuticals

○Shunsuke Ito¹⁾, Chiyomi Kubo¹⁾

¹⁾Translational Research Division, Chugai Pharmaceutical Co., Ltd.

16:20 ~ 17:10 Special Lecture 1 <SL-1>

Chairperson: Tin-Tin Win-Shwe (National Institute for Environmental Studies)

SL-1 Protecting public health from per- and polyfluoroalkyl substances: Focus on Immunotoxicity

○Jamie C. DeWitt

Professor, Pharmacology and Toxicology, Brody School of Medicine, East Carolina University

Poster & Company Exhibition Hall (1606), Young Poster Hall (1605)

17:10 ~ 18:10 Poster Discussion Session <PN-01 ~ PN-19, PY-01 ~ PY-03>

(Posters for Students and Young Scientists Session (OY-01~OY-10) are also included in this session)

PN-01 Effects of in vitro exposure to bisphenols on activation of dendritic cells induced by IL-33

○Eiko Koike¹⁾, Rie Yanagisawa¹⁾, Tin-Tin Win-Shwe¹⁾

¹⁾Health and Environmental Risk Division, National Institute for Environmental Studies

PN-02 Effects of bisphenol S exposure on neuroinflammation and cognitive impairment through dysregulation of autophagy and synaptic plasticity in allergic asthmatic mice

○Tin-Tin Win-Shwe¹⁾, Rie Yanagisawa¹⁾, Eiko Koike¹⁾

¹⁾Health and Environmental Risk Division, National Institute for Environmental Studies, Japan

PN-03 The effect of Diphenylarsinic acid (DPAA) on respiratory allergic responses using mice model

○Risako Tajiki¹⁾, Hitoshi Tajima¹⁾, Yuko Watanabe¹⁾, Tadashi Kosaka¹⁾,

¹⁾The Institute of Environmental Toxicology

PN-04 Respiratory sensitizer detection method using respiratory allergy mice model with intratracheal challenge

○Hitoshi Tajima¹⁾, Risako Tajiki-Nishino¹⁾, Yuko Watanabe¹⁾, Tadashi Kosaka¹⁾

¹⁾The Institute of Environmental Toxicology

PN-05 Establishing a new evaluation test for respiratory allergy caused by proteins

○Yi-Ting Lai¹⁾, Asuka Katagiri¹⁾, Takuo Yuki¹⁾, Masaaki Miyazawa¹⁾

¹⁾Safety Science Research Laboratories, Kao Corporation, Tochigi, Japan

PN-06 Altered respiratory and immune systems and their association with the gut microbiota in SAMP8 mice

○Rie Yanagisawa¹⁾, Eiko Koike¹⁾, Takehiro Suzuki¹⁾, Kazuyuki Okamura¹⁾, Tin-Tin Win-Shwe¹⁾

¹⁾Health and Environmental Risk Division, National Institute for Environmental Studies

PN-07 Relationship between profile of cytokine production by peripheral blood NK and T cells and efficacy in the treatment of Nivolumab in patients with malignant mesothelioma

○Yasumitsu Nishimura¹⁾, Suni Lee¹⁾, Naoko Kumagai-Takei¹⁾, Tatsuo Ito¹⁾, Nobukazu Fujimoto²⁾, Toshiyuki Kozuki³⁾, Takemi Otsuki^{1,4)}

¹⁾Dept of Hygiene, Kawasaki Medical School, ²⁾Dept of Medical Oncology, Okayama Rosai Hospital,

³⁾Dept of Thoracic Oncology and Medicine, Shikoku Cancer Center, ⁴⁾Shinjo-son National Health Insurance Clinic

PN-08 Development of highly-sensitive allergy test using chimeric IgE receptor-expressing cultured mast cells

Haruyo Akiyama¹⁾, Chisato Kurisaka¹⁾, Satoshi Tadokoro²⁾, Kenichi Kumasaka²⁾, ○Ryosuke

Nakamura³⁾

¹Teikyo Heisei Univ, ²Kanagawa Pref Inst Pub Health, ³Natl Inst Health Sci

PN-09 Study on the activation of THP-1 cells by mixed exposure of silicon dioxide nanomaterial with skin sensitizer or febrile substance

○Takao Ashikaga¹, Akiko Ohno¹, Rion Arai², Kazutoshi Iijima³

¹National Institute of Health Sciences, ²College of Engineering Science, Yokohama National University, ³Yokohama National University

PN-10 A human skin explant test as a novel in vitro assay for the detection of adverse immune reactions to aggregated monoclonal antibodies.

○Anne Mary Dickinson^{1,2}, Ana Martins-Ribeiro^{1,2}, Arathi Kizhedath³, Shaheda Sameena Ahmed¹, Jarka Glassey³

¹Alcyomics Ltd, The Biosphere, Draymans Way, Newcastle Helix, Newcastle Upon Tyne, NE4 5BX, UK, ²Translational and Clinical Research Institute Faculty of Medical Sciences, Newcastle University, Newcastle-upon-Tyne, NE2 4HH, UK, ³Chemical Engineering and Advanced Materials, Newcastle University, Newcastle-upon-Tyne NE17RU, UK

PN-11 Development of an in vitro innervated skin model for the detection of adverse neuropathic events

○Anne Dickinson¹, Matthew Freer¹, Shaheda Ahmed¹

¹Alcyomics Ltd, The Biosphere, Draymans way, Newcastle upon Tyne

PN-12 TARC/CCL17 is associated with CD8+ T cell recruitment in abacavir-induced skin toxicity in HLA-B*57:01-transgenic mice

○Shigeki Aoki¹, Yuying Gao¹, Saki Kuwahara¹, Akira Kazaoka¹, Kousei Ito¹

¹Laboratory of Biopharmaceutics, Graduate School of Pharmaceutical Sciences, Chiba University

PN-13 Development of a method for genotyping a surrogate marker of HLA-B*58:01 for allopurinol-induced SJS/TEN

○Eri Tsukagoshi¹⁾, Ryosuke Nakamura¹⁾, Hideo Asada²⁾, Yoshiro Saito¹⁾

¹⁾National Institute of Health Sciences, ²⁾Nara Medical University

PN-14 Intracellular metabolism change affects the susceptibility to HLA-related idiosyncratic drug toxicity

○Takeshi Susukida¹⁾, Shigeki Aoki²⁾, Yoshihiro Hayakawa¹⁾

¹⁾Institute of Natural Medicine, Univ of Toyama, ²⁾Lab of Biopharm, Grad School of Pharm Sci, Chiba Univ

PN-15 Effect of Gosha-Jinki-Gan on Levels of Specific mRNA Transcripts in Mouse Testes after Busulfan Treatment

○Ning Qu^{1,2)}, Kenta Nagahori²⁾, Miyuki Kuramasu²⁾, Yuki Ogawa²⁾, Daisuke Kiyoshima¹⁾, Hayato Terayama¹⁾, Kaori Suyama¹⁾, Shogo Hayashi¹⁾, Masahiro Itoh²⁾

¹⁾Department of Anatomy, Tokai University School of Medicine, Japan

²⁾Department of Anatomy, Tokyo Medical University, Japan

PN-16 Effects of dexmedetomidine on the localization of α 2A-Adrenergic and imidazoline receptor in mouse testis

○Hayato Nomura¹⁾, Hayato Terayama²⁾, Daisuke Kiyoshima²⁾, Ning Qu²⁾, Kosuke Shirose¹⁾, Kou Sakabe³⁾, Takeshi Suzuki¹⁾

¹⁾Department of Anesthesiology, ²⁾Department of Anatomy, Tokai University School of Medicine,

³⁾Center for Preventive Medical Sciences, Chiba University

PN-17 Establishment of an assay to evaluate innate immune reaction response to oligonucleotide drugs using human whole blood

○Shogo Matsumura¹⁾, Kiyoshi Kushima¹⁾, Ko Omura¹⁾

¹Exploratory Pathophysiology, Non-Clinical Biomedical Science, Applied Research & Operations,
Astellas Pharma Inc.

PN-18 Recommendation for clinical sample collection used for immunogenicity evaluation during development of biopharmaceuticals

○Akiko Ishii-Watabe¹, Hiroko Shibata¹, Kazuko Nishimura¹, Yoshiro Saito²

¹ Division of Biological Chemistry and Biologicals, ²Division of Medicinal Safety Science, National Institute of Health Sciences

PN-19 Immune-cell activation by BiTE antibody aggregates

○Minoru Tada¹, Michihiko Aoyama¹, Akiko Ishii-Watabe¹

¹National Institute of Health Sciences

PY-01 Development of transfer and replacement of alveolar macrophages for functional analysis of alveolar macrophages.

○Inoue Hinata¹, Takumi Adachi¹, Etsushi Kuroda¹

¹Department of Immunology, Hyogo Medical University

PY-02 The effect of iron oxide particles on respiratory cells

○Yuya Higaki¹, Raga Ishikawa¹, Akiko Honda^{1,2}, Megumi Nagao², Takamichi Ichinose², Hirohisa Takano^{1,2}

¹Grad. Sch. of Eng., Kyoto Univ., ²Grad. Sch. of Global Environ. Studies, Kyoto Univ.

PY-03 Analysis of immune-related molecules in pancreatic cancer chemoprevention by fucoxanthin

○Wataru Murase¹, Masaru Terasaki^{1,2}, Atsuhito Kubota¹, Ayaka Yasuda¹, Hiroyuki Kojima^{1,2}

¹Pharm Sci, and ²Adv Res Prom Ctr, Health Sci Univ Hokkaido

18:15 ~ 19:30 Award Ceremony for Students and Young Scientists

Get-together Meeting

September 13 (Tuesday)

Main hall(1614)

9:00 ~ 9:45 Oral Presentation ② <ON-03 ~ ON-05>

Chairperson: Masafumi Nakayama (College of Pharmaceutical Sciences, Ritsumeikan University)

ON-03 Analysis of a novel mucosal adjuvant utilizing programmed cell death

○Takumi Adachi¹⁾, Etsushi Kuroda¹⁾

¹⁾Department of Immunology, Hyogo Medical University

ON-04 Role of extracellular vesicles in pulmonary inflammation and allergic exacerbation of particulate matters

○Raga Ishikawa¹⁾, Yuta Shimohata¹⁾, Ryota Tamadai¹⁾, Akiko Honda^{1,2)}, Kaori Sadakane³⁾, Yoshikazu Mikami⁴⁾, Takamichi Ichinose²⁾, Hirohisa Takano^{1,2)}

¹⁾Grad Sch of Eng, Kyoto Univ, ²⁾Grad Sch of Global Environ Studies, Kyoto Univ, ³⁾Dept of Health Sci, Oita Univ of Nursing and Health Sci, ⁴⁾Grad Sch of Med and Dent Sci, Niigata Univ

ON-05 Evaluation of specific IgM antibody production and blood retention by administration of weak low pH-responsive peptide-modified liposomes

○Hideyuki Masuda¹⁾, Tomomi Ohida¹⁾, Tomoko Satoh¹⁾, Satoshi Mrimoto¹⁾, Susumu Hama¹⁾

¹⁾Pharm. Sci., Musashino Univ.

9:55 ~ 10:45 Special Lecture 2 <SL-2>

Chairperson: Kouichi Yoshinari (School of Pharmaceutical Sciences, University of Shizuoka)

SL-2 Indigo treatment targeting the mucosal healing of ulcerative colitis; Yin and yang

○Takanori Kanai

Professor, Div. Gastroenterology and Hepatology, Dept. Internal Medicine, Keio University School of Medicine & AMED-CREST (multi-sensing project), Tokyo, Japan

10:45 ~ 12:00 Awardee Presentation <AL-01 ~ AL-03>

Chairperson: Tsuyoshi Nakanishi (Gifu Pharmaceutical University)

JSIT Award Lecture

AL-01 Involvement of immunological dysregulations in arsenic-induced diseases

○Seiichiro Himeno^{1,2)}

¹⁾ Sch Pharmacy, Showa Univ, ²⁾ Fac Pharm Sci Tokushima Bunri Univ

JSIT Young Investigator Award Lecture

AL-02 Preclinical immunotoxicity and immunogenicity studies aimed at improving safety predictions of biopharmaceuticals

○Chiyomi Kubo

Translational Research Division, Chugai Pharmaceutical Co., Ltd.

AL-03 Study on immunotoxicity through mRNA stability control mechanism

○Ryuta Muromoto

Department of Immunology, Graduate School of Pharmaceutical Sciences, Hokkaido University

12:00 ~ 13:00 <Lunch time>

13:00 ~ 13:30 Oral Presentation ③ <ON-06, ON-07>

Chairperson: Tomoki Fukuyama (School of Veterinary Medicine, Azabu University)

ON-06 Bacterial translocation due to lowered intestinal immunity in zinc deficiency

○Takamasa Kido¹⁾, Anna Nakamura¹⁾, Hiroyuki Yanagisawa¹⁾, Machi Suka¹⁾

¹⁾The Jikei University School of Medicine

ON-07 Mechanistic study of anti-inflammatory effects in the Elemental Diet: Focus on its component, tryptophan.

○Atsuhito Kubota¹⁾, Ryoichi Aoyagi¹⁾, Ruka Ito¹⁾, Masaru Terasaki^{1,2)}, Hiroyuki Kojima^{1,2)}

¹⁾ Pharm Sci, Health Sci Univ Hokkaido, ²⁾ Adv Res Prom Center, Health Sci Univ Hokkaido

13:40 ~ 14:25 Educational Lecture 2 <EL-02>

Chairperson: Yasuo Yoshioka (Research Institute for Microbial Diseases, Osaka University)

EL-02 Understanding efficacy, effectiveness and safety of vaccines: from an epidemiological perspective

○Wakaba Fukushima

Professor, Department of Public Health, Osaka Metropolitan University Graduate School of Medicine

14:30 ~ 16:30 Workshop: “Challenges in Immunotoxicity Assessment Emerging from the Diversification of Drug Molecular Modes” <WS-01 ~ WS-05>

Chairperson: Tetsuo Aida (Daiichi Sankyo Co., Ltd.)

Kiyoshi Kushima (Astellas Pharma Inc.)

WS-01 Recent *In Vivo* Immunotoxicology studies Using Cynomolgus Moneys at SNBL

○Yoshihiro Takahashi

Shin Nippon Biomedical Laboratories, Ltd.

WS-02 Issues and considerations for evaluation of therapeutic antibodies using cytokine release assay

○Tetsuo Aida

Medicinal Safety Research Laboratories, Daiichi Sankyo Co., Ltd.

WS-03 Considerations in immunotoxicity assessment of biopharmaceuticals

○Chiyomi Kubo

Translational Research Division, Chugai Pharmaceutical Co., Ltd

WS-04 Challenges in immunotoxicity evaluation for nucleic acid drugs and gene therapy products

○Shogo Matsumura¹⁾, Kiyoshi Kushima¹⁾, Ko Omura¹⁾

¹⁾Exploratory Pathophysiology, Non-Clinical Biomedical Science, Applied Research & Operations,
Astellas Pharma Inc.

WS-05 Comprehensive Discussion

16:30 ~ 16:45 Award Ceremony for the Best Presenter of 29th Annual Meeting

Closing Remarks