

Program

September 4 (Monday)

9:00 ~ 9:05 Opening Remark

The 24th Annual Meeting of the Japanese Society of Immunotoxicology

President: Kazuichi Nakamura

The 72nd Meeting of Allergy and Immunotoxicology study group of Japan Society for Occupational Health

Coordinator: Takahiko Yoshida

9:05 ~ 9:50 Keynote Lecture (VTR)

Chairperson Kazuichi Nakamura (Kitasato University)

KL-01 Immunotoxicology: A Historical Perspective

○ Jack H. Dean

Department of Pharmacology & Toxicology, College of Pharmacy at the University of Arizona, USA

9:50 ~ 10:35 Oral Presentations 1 <O-01 ~ O-03>

Chairpersons Eiko Koike (Center for Health and Environmental Risk Research, National Institute for Environmental Studies)

Katsunori Yamaura (Faculty of Pharmacy, Keio University)

O-01 Possible interaction between estrogen and allergic respiratory inflammation

○ Risako Tajiki, Emi Makino, Yuko Watanabe, Tomoki Fukuyama

The Institute of Environmental Toxicology

O-02 Possible involvement of estrogen receptors on pro-inflammatory response in mice model of allergic dermatitis

Emi Makino, Risako Tajiki, Yuko Watanabe, ○ Tomoki Fukuyama

The Institute of Environmental Toxicology

O-03 Gosha-jinki-gan recover the intact spermatogenesis in busulfan-induced immunotoxicology and aspermatogenesis in mice

○ Ning Qu¹, Masahiro Itoh², Hayato Terayama¹, Kenta Nagahori², Miyuki Kuramasu², Yuki Ogawa², Kou Sakabe¹

¹Department of Anatomy, Division of Basic Medical Science, Tokai University School of Medicine, Kanagawa, Japan, ²Department of Anatomy, Tokyo Medical University, Tokyo, Japan

10:35 ~ 11:05 Students and Young Scientists Session <SY-01 ~ SY-03>

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

SY-01 Comparison of skin sensitization potential of isocyanates by a Local Lymph Node Assay and an Integrated Testing Strategy with an *in silico*, *in chemico* and *in vitro* assays

○ Toshiyuki Ohtake, Yosuke Maeda, Tae Hayashi, Hidenori Yamanaka, Makoto Nakai, Masahiro Takeyoshi

Chemicals Assessment and Research Center, Chemicals Evaluation and Research Institute (CERI), Japan

SY-02 Analysis of mechanism of skin-specific drug toxicities using the cells derived from HLA-Tg mice

○ Sota Fujimori, Shigeki Aoki, Takeshi Susukida, Kousei Ito

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

SY-03 Reproduction of idiosyncratic liver injury by abacavir using HLA transgenic mouse

○ Binbin Song, Shigeki Aoki, Takeshi Susukida, Kousei Ito

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

11:10 ~ 11:55 Poster Presentations <P-01 ~ P-22>

(* indicates applicants for Students and Young Scientists Award)

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- P-04 **Changes of testosterone in murine testes due to long-term exposure of acetamiprid**
○ Hayato Terayama¹, Ning Qu¹, Hitoshi Endo², Masayuki Tatemichi², Kou Sakabe¹
¹Department of Anatomy, Tokai University School of Medicine, ²Department of Preventive Medicine, Tokai University School of Medicine
- P-05 **The impact of dietary exposure of bisphenol A in a mouse model of allergic asthma**
○ Rie Yanagisawa¹, Eiko Koike¹, Tin Tin Win Shwe¹, Hirohisa Takano²
¹National Institute for Environmental Studies, ²Kyoto University
- P-06 **Effects of dietary administration of bisphenol A on lymphoid tissues in a mouse model of allergic asthma**
○ Eiko Koike¹, Rie Yanagisawa¹, Tin Tin Win Shwe¹, Hirohisa Takano²
¹National Institute for Environmental Studies, ²Kyoto University
- P-07 **Effects of exposure to bisphenol A on memory function and neuroimmune biomarkers in allergic asthmatic mice**
○ Tin Tin Win Shwe¹, Rie Yanagisawa¹, Eiko Koike¹, Hirohisa Takano²
¹Center for Health and Environmental Risk Research, National Institute for Environmental Studies, ²Graduate School of Engineering, Kyoto University
- P-08 **Particulate Matter 2.5 suppresses immune response in splenocytes by oxidative stress**
○ Yasuhiro Yoshida, Cuiying He, Kentaro Morita
Department of Immunology and Parasitology, University of Occupational and Environmental Health, Japan
- P-09 **Study of stress responses induced by asbestos in MT-2 cells**
○ Hidenori Matsuzaki¹, Suni Lee¹, Megumi Maeda², Naoko Kumagai-Takei¹, Kei Yoshitome¹, Yasumitsu Nishimura¹, Takemi Otsuki¹
¹Department of Hygiene, Kawasaki Medical School, ²Department of Biofunctional Chemistry, Division of Bioscience, Okayama University Graduate School of Natural Science and Technology
- P-10 **The expression change of oxidative phosphorylation (OXPHOS)-related complexes and ROS production in human T cell lines, MT-2 and its sub-line continuously exposed to asbestos fibers.**
Shoko Yamamoto, ○ Suni Lee, Hidenori Matsuzaki, Tamayo Hatayama, Naoko Kumagai-Takei, Kei Yoshitome, Yasumitsu Nishimura, Takemi Otsuki
Department of Hygiene, Kawasaki Medical School

- P-11 Specific association of the rs6500265 and rs9933632 SNPs in Japanese patients with cold medicine-related Stevens–Johnson syndrome and toxic epidermal necrolysis with severe ocular involvements**
Yoshimi Okamoto-Uchida¹, Ryosuke Nakamura¹, Kayoko Matsunaga², Michiko Aihara³,
○ Yoshiro Saito¹
¹Division of Medicinal Safety Science, National Institute of Health Sciences, Tokyo, Japan,
²Department of Integrative Medical Science for Allergic Disease, School of Medicine, Fujita Health University, Aichi, Japan, ³Department of Environmental Immuno-Dermatology, Graduate School of Medicine, Yokohama City University, Kanagawa, Japan
- P-12 Utility of Chimeric HLA Transgenic Mice for Evaluating Immune-Mediated Idiosyncratic Drug Toxicity**
○ Shigeki Aoki, Takeshi Susukida, Sota Fujimori, Binbin Song, Kousei Ito
Laboratory of Biopharmaceutics, Graduate School of Pharmaceutical Sciences, Chiba University, Japan
- P-13 Role of NF-κB in the anti-inflammatory effects of PXR in drug-induced liver injury**
Maya Okamura, Taiki Abe, Satoshi Tsuruta, Ryota Shizu, Takuomi Hosaka, Takamitsu Sasaki,
○ Kouichi Yoshinari
Department of Molecular Toxicology, School of Pharmaceutical Sciences, University of Shizuoka
- P-14 Electron microscopic observation of a novel cytoplasmic rods and rings structure (RR) induced by ribavirin and methotrexate (MTX)**
○ Tamiji Nakashima¹, Shin Tanaka¹, Minoru Satoh²
¹Department of Human, Information and Life Sciences, School of Health Sciences, ²Department of Clinical Nursing, School of Health Sciences, University of Occupational and Environmental Health, Japan
- P-15 Evaluation of Pruritus in Psoriatic Mouse Model Induced by Imiquimod and Exploring the Factors Associated with Pruritus**
○ Nobuo Oishi¹, Hiroki Iwata¹, Noriko Kobayashi¹, Kazuko Fujimoto¹, Hiromi Sato²,
Akihiro Hisaka², Katsunori Yamaura¹
¹Division of Social Pharmacy, Center for Social Pharmacy and Pharmaceutical Care Sciences, Faculty of Pharmacy, Keio University, ²Laboratory of Clinical Pharmacology and Pharmacometrics, Graduate School of Pharmaceutical Sciences, Chiba University
- P-16 Gene expression profiles of di-(2-ethylhexyl) phthalate and its metabolite mono-(2-ethylhexyl) phthalate in human macrophage-like THP-1 cells**
○ Hiroyuki Kojima¹, Shinji Takeuchi¹, Ryuta Muromoto², Reiko Kishi³, Atsuko Araki³
¹Hokkaido Institute of Public Health, ²Graduate School of Pharmaceutical Sciences, Hokkaido University, ³Center for Environmental and Health Sciences, Hokkaido University

- P-17 **Titanium dioxide nanomaterial suppresses antigen-presenting and antigen-uptaking of THP-1-derived dendritic cells**
○ Shinobu Sakai, Maiko Tahara, Keisuke Soga, Reiko Adachi, Kazunari Kondo, Yoshiaki Ikarashi
National Institute of Health Sciences
- P-18 **Tfh cells and DCs are involved in particulate-induced iBALT formation in the lungs through IL-1 α release**
○ Etsushi Kuroda^{1,2}, Ken J Ishii^{1,2}
¹National Institutes of Biomedical Innovation, Health and Nutrition (NiBIOHN), ²WPI Immunology Frontier Research Center (IFReC), Osaka University
- P-19 **Development of humanized mouse model capturing early responses against vaccination and its application to vaccine safety evaluation method**
○ Eita Sasaki, Haruka Momose, Yuki Hiradate, Keiko Furuhata, Takuo Mizukami, Isao Hamaguchi
Department of Safety Research on Blood and Biological Products, National Institute of Infectious Disease
- P-20 **Evaluation of bilayer interferometry method to detect anti-drug antibodies using anti-EPO antibody reference standard panel**
○ Hiroko Shibata¹, Kazuko Nishimura¹, Chizuru Miyama¹, Minoru Tada¹, Takuo Suzuki¹, Yoshiro Saito², Akiko Ishii-Watabe¹
¹Division of Biological Chemistry and Biologicals, National Institute of Health Sciences, ²Division of Medicinal Safety Science, National Institute of Health Sciences
- P-21 **Artifacts on immune-related protein levels caused by inadequate preparation of the plasma samples**
○ Ryosuke Nakamura¹, Noriaki Arakawa¹, Keiko Maekawa^{1,2}, Yoshiro Saito¹
¹National Institute of Health Sciences, ²Doshisha Women's College of Liberal Arts
- P-22 **Comparison of hemolysis reagents and sample volumes for cynomolgus monkey peripheral blood immunophenotyping**
○ Aiko Sakai, Takayuki Asahi, Takanori Sugimoto
Drug Safety Research Laboratories, Nippon Biomedical Laboratories, Ltd.

12:05 ~ 12:55 Luncheon Seminar 1 (Charles River Laboratories Japan, Inc.)

LS-01 Unraveling Immunotoxicological Assays for Agrochemical and Pharmaceutical Industries

○ Vanessa L. Peachee, MS, PhD

Director, Immunotoxicology, Charles River Laboratories Ashland, LLC

13:05 ~ 13:50 General Assembly

13:55 ~ 14:45 Award Ceremony "JSIT Research Award" and Award Lecture

Chairpersons Teshima Reiko (Pharmaceuticals and Medical Devices Agency, Office of Cellular and Tissue-based Products/Office of OTC/Quasi-drugs)

Keiko Nohara (Center for Health and Environmental Risk Research, National Institute for Environmental Studies)

AL-01 Differential immunologic responses in mice exposed to low levels of volatile organic compounds

○ Hidekazu Fujimaki

National Institute for Environmental Studies

AL-02 The role of skin immunotoxicity induced by topical steroid therapy in chronic pruritic skin diseases

○ Katsunori Yamaura

Division of Social Pharmacy, Center for Social Pharmacy and Pharmaceutical Care Sciences, Faculty of Pharmacy, Keio University

14:50 ~ 16:50 Symposium "Reproductive immunotoxicology: Immunological mechanism of pregnancy and its breakdown"

Chairpersons Hayato Terayama (Department of Anatomy, Division of Basic Medicine, Tokai University School of Medicine)

Kazuhiro Shimomura (Vaccine Research Laboratories, Kitasato Daiichi Sankyo Vaccine Co., Ltd.)

S-01 **Immunological Changes during Pregnancy in Cows**

○ Yosuke Maeda

Laboratory of Clinical Veterinary Medicine for Large Animal, Kitasato University, Japan

S-02 **Immune-tolerance in the placenta**

○ Yoshie Kametani

Department of Molecular Life Science, Division of Basic Medical Science, Tokai University School of Medicine

S-03 **Regulatory T cells are important for implantation and maintenance of pregnancy**

○ Tomoko Shima, Akitoshi Nakashima, Shigeru Saito

Department of Gynecology and Obstetrics, University of Toyama

S-04 **Mechanisms of pregnancy complications caused by nanoparticles: possible role of sterile inflammation (inflammasomes) during pregnancy**

○ Koumei Shirasuna¹, Nao Tanikawa¹, Ayae Ozeki¹, Akihide Ohkuchi², Masafumi Takahashi²

¹Department of Animal Science, Tokyo University of Agriculture, ²Jichi Medical University

17:00 ~ 17:50 Special Lecture 1

Chairperson Yoshiro Saito (National Institute of Health Sciences)

SL-01 **Involvement of immune-related factors on idiosyncratic drug-induced liver injury**

○ Tsuyoshi Yokoi

Nagoya University Graduate School of Medicine

18:30 ~ 20:30 Banquet and Award Ceremony for Students and Young Scientists Award (Sun Royal Towada)

September 5 (Tuesday)

8:40 ~ 9:40 Oral Presentations 2 <O-04 ~ O-07>

Chairpersons Yasuo Morimoto (University of Occupational and Environmental Health, Japan.
Institute of Industrial Ecological Sciences)

Seiichiro Himeno (Faculty of Pharmaceutical Sciences, Tokushima Bunri University)

O-04 **The immunological differences between patients with diffuse pleural thickening and malignant mesothelioma**

○ Yasumitsu Nishimjura¹, Suni Lee¹, Naoko Kumagai-Takei¹, Hidenori Matsuzaki¹, Kei Yoshitome¹, Kenzo Okamoto², Takumi Kishimoto³, Takemi Otsuki¹

¹Dept. of Hygiene, Kawasaki Medical School, ²Hokkaido Chuo Rosai Hospital, ³Okayama Rosai Hospital

O-05 **Altered functions of human CD8+ T cell line caused by long-term exposure to asbestos fibers**

○ Naoko Kumagai-Takei, Yasumitsu Nishimura, Hidenori Matsuzaki, Suni Lee, Kei Yoshitome, Takemi Otsuki

Department of Hygiene, Kawasaki Medical School

O-06 **The mechanism of inflammatory responses in the Th2-lymphocytes derived from the spleen of Zn-deficient rats**

○ Takamasa Kido¹, Kenji Ishiwata², Shingo Yogosawa¹, Wataru Yoshioka¹, Machi Suka¹, Hiroyuki Yanagisawa¹.

¹Department of Public Health and Environmental Medicine, Jikei University School of Medicine,

²Department of tropical medicine

O-07 **Organotins suppress antigen-specific immune responses by modulating dendritic cell maturation via signaling pathway of retinoid X receptor.**

○ Tsuyoshi Nakanishi¹, Akiko Ido¹, Youhei Hiromori^{1,2}, Hisamitsu Nagase¹

¹Laboratory of Hygienic Chemistry and Molecular Toxicology, Gifu Pharmaceutical University,

²Faculty of Pharmaceutical Sciences, Suzuka University of Medical Science

9:40 ~ 10:40 Oral Presentations 3 <O-08 ~ O-11>

Chairpersons Hiroyuki Kojima (Hokkaido Institute of Public Health)

Seishiro Hirano (National Institute for Environmental Studies)

O-08 Regulation of myeloid-derived suppressor cells by glutamate signaling

○ Masashi Tachibana^{1,2,3}, Naosuke Morikawa², Yukio Ago⁴, Hiroshi Goda², Fuminori Sakurai², Hiroyuki Mizuguchi^{2,3,5}

¹Laboratory of Biotechnology and Therapeutics, Graduate School of Pharmaceutical Sciences, Osaka University, ²Laboratory of Biochemistry and Molecular Biology, Graduate School of Pharmaceutical Sciences, Osaka University, ³Global Center for Medical Engineering and Informatics, Osaka University, ⁴Laboratory of Molecular Neuropharmacology, Graduate School of Pharmaceutical Sciences, Osaka University, ⁵Laboratory of Hepatocyte Regulation, National Institutes of Biomedical Innovation, Health and Nutrition

O-09 Different regulation of IL-1 β release in murine macrophages

○ Seishiro Hirano¹, Akiko Furuyama¹, Sanae Kanno²

¹Natl. Inst. Environ. Studies, ²Nagoya City Univ.

O-10 Role of JAK family kinases in IL-17-induced keratinocyte activation

○ Ryuta Muromoto, Keisuke Tawa, Yui Ohgakiuchi, Tadashi Matsuda

Department of Immunology, Faculty of Pharmaceutical Sciences, Hokkaido University

O-11 Skin sensitization model by quantitative structure-activity relationships (QSAR) based on alert structure of sensitizer and non-sensitizer

○ Kazuhiro Sato¹, Jose Martin Ciloy², Yukinori Kusaka¹

¹Department of Environmental Health, University of Fukui, ²Fujitsu Kyushu Systems Limited (FJQS)

10:40 ~ 11:30 Educational Lecture

Chairperson Etsushi Kuroda (Center for Vaccine and Adjuvant Research (CVAR), National Institutes of Biomedical Innovation, Health and Nutrition (NIBIOHN))

EL-01 Autoimmune diseases induced by virus infections

○ Takeharu Minamitani, Teruhito Yasui

National Institutes of Biomedical Innovation, Health and Nutrition (NIBIOHN)

Laboratory of Infectious Diseases and Immunity

11:40 ~ 12:30 Luncheon Seminar 2 (Shin Nippon Biomedical Laboratories, Ltd.)

LS-02 Evaluation methods for cell and gene therapy products in SNBL

○ Asako Uchiyama, Izumi Hiroyuki

iPS Cell Therapy Support Unit, Preclinical Research Support Division, Shin Nippon Biomedical Laboratories, Ltd.

12:40 ~ 13:30 Special Lecture 2

Chairperson Akiko Ishii-Watabe (National Institute of Health Sciences)

SL-02 Immunotoxicity Assessment of Biopharmaceuticals

○ Danuta Herzyk, PhD

Merck Research Laboratories, Merck & Co, USA

13:30 ~ 15:30 Workshop “The latest developments in the safety evaluation method of biopharmaceuticals (protein formulations)”

Chairpersons Tetsuo Aida (Medicinal Safety Research Laboratories, Daiichi Sankyo Co., Ltd.)

Shigeru Hisada (Innovative Drug Discovery Division, ASKA Pharmaceutical Co., Ltd.)

WS-01 Outline and Points to Note on the Safety Evaluation Method of Biopharmaceuticals

○ Akiko Ishii-Watabe¹, Yoshiro Saito²

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

WS-02 Consideration for Preclinical Safety Evaluation of Biotechnology-Derived Pharmaceuticals

○ Kazushige Maki

Toxicology, Pharmaceutical and Medical Devices Agency

WS-03 Characteristic test methods in biopharmaceutical nonclinical evaluation - Evaluation methods using human cells-

○ Chiyomi Kubo, Tomoaki Inoue

Chugai Pharmaceutical Co., Ltd, Research Division

WS-04 Nonclinical safety assessment of antibody drug conjugates

○ Tetsuo Aida

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

15:30 ~ 15:40 Award Ceremony

“The Best Presenter Award”