

The 43rd Annual Meeting of the Japanese Environmental Mutagen Society (JEMS)

“Genotoxicity and Carcinogenesis: Risk Assessment Based on Mechanism of Action”

Date : December 4th – 5th, 2014

Venue : Hitotsubashi Hall, 2-1-2 Hitotsubashi, Chiyoda-ku, Tokyo 101-8439

http://www.hit-u.ac.jp/hall/file/menu-016/file_02.pdf

President

Yoshifumi Uno, D.V.M., Ph.D.
Mitsubishi Tanabe Pharma Corporation

Organizing Committee

Yoshifumi Uno, Masamitsu Honma, Takeshi Morita, Hiroyuki Kamiya,
Yukari Totsuka, Tsuneo Hashizume, Satoru Ito, Shuichi Hamada,
Yumiko Iwase, Shigeharu Muto, and Eiji Yamamura

Program

► Plenary and Mochizuki Kitashi Award Lecture

- David Kirkland

► JEMS Award Ceremony and Lectures

- Tomoe Negishi
- Kazunori Narumi
- Makoto Hayashi
- Kazuhiko Takahashi

► Platform sessions

► Poster sessions

► Luncheon Seminar

- Brian Burlinson

► Exhibitions

► Symposium sessions

1. Novel Approaches for Genotoxic Evaluation
– Intelligent Test System
 - Masamitsu Honma
 - Ovanes Mekenyan
 - Scott Auerbach
 - Tomonari Matsuda
 - Manabu Yasui
2. Examples of Genotoxic and/or
Carcinogenic Risk Assessment Based on
Mechanism of Action
 - Arthur. P. Grollman
 - Atsushi Hakura
 - Takashi Umemura
 - Tsuneo Hashizume
 - Masayuki Mishima
 - Yoshifumi Uno

Banquet

December 4th, 7:00 pm start
Star Hall, Josui Kaikan

2-1-1 Hitotsubashi, Chiyoda-ku, Tokyo 101-0003

Fee

► Registration

Category	Early Registration (Until Sept. 30, 2014)	Onsite Registration
Member	10,000 JPY	12,000 JPY
Student Member	3,000 JPY	4,000 JPY
Non-member	12,000 JPY	15,000 JPY

► Banquet

Category	Early Registration (Until Sept. 30, 2014)	Onsite Registration
Member	8,000 JPY	10,000 JPY
Student Member	4,000 JPY	5,000 JPY
Non-member	8,000 JPY	10,000 JPY

Secretariat

In Safety Research Laboratories, Research Division, Mitsubishi Tanabe Pharma Corporation

1-1-1, Kazusakamatari, Kisarazu, Chiba 292-0818

E-mail: secretariat@jems2014.com

9:30 〈Hitotsubashi Hall〉

Registration

10:20 - 10:25 〈Hitotsubashi Hall〉

Opening Remarks

Yoshifumi Uno
President of the 43rd JEMS Meeting
Mitsubishi Tanabe Pharma Corporation

10:30 - 12:00 〈Hitotsubashi Hall〉

Platform Session 1 Presentation 12min, Discussion 3min

Presentation 12min, Discussion 3min

Chairpersons: Takayoshi Suzuki (National Institute of Health Sciences)
Yukari Totsuka (National Cancer Center Research Institute)

O-1 10:30 **A multidisciplinary approach to explore the etiology of esophageal cancer in China**
(P-004) Akane Ikeda^{1,6}, Mamoru Kato², Tatsuhiro Shibata², Isao Kurosaka³, Yingsong Lin⁴, Yoshitaka Matsushima⁵, Osamu Endo⁶, Hitoshi Nakagama¹, Yukari Totsuka¹
¹Natl. Cancer Ctr. Res. Inst.Div. Cancer Development System, ²Div.Cancer Genomics,
³Dept. Bioinformatics, ⁴Aichi Med. Univ., Sch. Med., Dept. Publ. Health., ⁵Tokyo Univ. Agricul,
⁶Azabu University

O-2 10:45 **Mutation signature analysis of occupational cholangiocarcinoma and dichloropropane-exposed cells.**
(P-005) Masanori Goto¹, Sachiyo Mimaki², Shoji Kubo³, Katsuya Tsuchihara², Hitoshi Nakagama¹, Yukari Totsuka¹
¹National Cancer Center Research Institute, ²National Cancer Center EPOC, ³Osaka City University

O-3 11:00 **Germline mutation rate and its threshold in mice**
(P-006) Arikuni Uchimura¹, Mayumi Higuchi¹, Yohei Minakuchi², Jo Nishino³, Atsushi Toyoda², Asao Fujiyama², Takeshi Yagi¹
¹Graduate School of Frontier Biosciences, Osaka University, ²National Institute of Genetics, ³The Institute of Statistical Mathematics

O-4 11:15 **Estimation of inherited germline mutations by mouse whole exome sequencing**
Kenichi Masumura¹, Naomi Toyoda-Hokaiwado¹, Yoichi Gondo², Takehiko Nohmi³,
 Masamitsu Honma¹
¹Division of Genetics and Mutagenesis, National Institute of Health Sciences,
²RIKEN BioResource Center,
³Biological Safety Research Center, National Institute of Health Sciences

O-5 11:30 **Accumulation characteristics of mutation in descendant mice after the every generational low dose-rate internal ¹³⁷Cs radiation exposure, as the Fukushima simulation experiment.**
Hiroo Nakajima¹, Yoshiaki Yamaguchi², Takashi Yoshimura², Manabu Fukumoto³, Takeshi Todo¹
¹Dept. Radiat. Biol. Med. Genet., Grad. Sch. Med., Osaka Univ.,
²Radioisotope Res. Center. Osaka Univ., ³Dept. Path., Insti. Dev. Aging Cancer., Tohoku Univ.

O-6 (P-003)	11:45	Risk estimation for airborne particulate matter: comparison with smoking <u>Masahiko Watanabe</u> , Hiroaki Aso, Katsuya Suemaru School of Pharmacy, Shujitsu University
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10:30 - 11:45 ‹Conference Room (1F)›

Platform Session 2

Presentation 12min, Discussion 3min

Chairpersons: Satoru Itoh (Daiichi Sankyo Co., Ltd.)
Takeshi Morita (National Institute of Health Sciences)

- O-7** 10:30 **Investigation for mechanism of DNA adduct formation by 2,4- and 2,6-diaminotoluene using DNA adductome analysis**
Shigeharu Muto, Katsuya Yamada, Kyoko Kato, Tatsuya Kato, Yumiko Iwase,
Koji Takekawa, Yoshifumi Uno
Mitsubishi Tanabe Pharma Corporation
- O-8** 10:45 **Toxic evaluation of silver nanoparticles using side scattered light in flow cytometry and phosphorylation of histone H3**
(P-039) Xiaoxu Zhao, Yuko Ibuki
Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka
- O-9** 11:00 **Induction of mouse colon tumors by colon-mutagenic noncarcinogens in a colitis model**
(P-058) Naoki Koyama¹, Yuki Seki¹, Jiro Sonoda¹, Shinya Tanahashi², Satoru Hosokawa¹,
Shoji Asakura¹, Kyoko Nakano¹, Atsushi Hakura¹
¹Tukuba Drug Safety, Eisai Co., Ltd., ²Preclinical Safety Research Laboratories, Sunplanet Co.,Ltd
- O-10** 11:15 **Integrated analysis of microRNA expression profile and Comet assay in the mouse liver for correct classification of genotoxic compounds**
(P-048) Hiroyuki Oka¹, Takeki Uehara², Yuji Morikawa¹, Hiroyuki Hanafusa¹, Koichi Masuno¹,
Hirofumi Miyajima¹
¹Research Laboratory for Development, Shionogi & Co., Ltd.,
²Global Project Management Department, Shionogi & Co., Ltd.
- O-11** 11:30 **From margin of exposure (MOE) toward internal MOE (iMOE) -Risk assessment of carcinogen using hemoglobin adduct-**
(P-008) Hiroshi Honda, Kenkichi Fujii, Toshio Kasamatsu, Naohiro Ikeda, Naohiro Nishiyama
R&D - Core Technology - Safety Science Research

13:00 - 14:00 ‹Hitotsubashi Hall›

General Meeting

14:00 - 15:00 ‹Hitotsubashi Hall›

Award Lectures

Chairperson: Yasunobu Aoki (National Institute for Environmental Studies)

JEMS Award 2014

- AW** 14:00 **Study of mutation induced by UVA or alkylating agents using *Drosophila***
Tomoe Negishi
Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences

JEMS Achievement Award 2014

- AA** 14:25 **Developmental Study of Repeated-Dose Liver Micronucleus Assay Using Adult Rats**
Kazunori Narumi
Yakult Honsha Co., Ltd.

- SA-1** 14:40 **Contribution to Internationalization of Genotoxicity Testing in Regulatory Science**
Makoto Hayashi
Public Interest Incorporated Foundation BioSafety Research Center
- SA-2** 14:50 **Contribution toward fostering young scientists through the Mutagenesis Research Meetings**
Kazuhiko Takahashi
Yokohama College of Pharmacy

15:10 - 17:40 〈Hitotsubashi Hall〉

Symposium 1 Novel Approaches for Genotoxic Evaluation – Intelligent Test System

Chairpersons: Masamitsu Honma (National Institute of Health Sciences)
Eiji Yamamura (Mitsubishi Tanabe Pharma Corporation)

- S1-1** 15:10 **Intelligent Test System in Genetic Toxicology**
Masamitsu Honma
Division of Genetics and Mutagenesis, National Institute of Health Sciences
- S1-2** 15:40 **Mechanism based QSAR for Predicting Mutagenicity and Carcinogenicity**
Ovanes Mekenyan
Laboratory of Mathematical Chemistry, Asen Zlatarov University, Bourgas, Bulgaria
- S1-3** 16:10 **Hypothesis generation through holistic analysis of Tox21 data**
Scott S Auerbach
Biomolecular Screening Branch, Division of the National Toxicology Program at NIEHS, US
- S1-4** 16:40 **DNA adductome for genotoxic evaluation**
Tomonari Matsuda
Research Center for Environmental Quality Management, Kyoto University
- S1-5** 17:10 **Site-specific DNA adduct mutagenesis in vivo**
Manabu Yasui
Division of Genetics and Mutagenesis, National Institute of Health Sciences

17:45 - 18:45 〈Conference Room (2F)〉

Poster Session Core time for odd numbers

19:00 - 20:30 〈Star Hall, 2F Josui Kaikan〉

Banquet

〈Hitotsubashi Hall〉

Registration

〈Hitotsubashi Hall〉

Platform Session 3 Presentation 12min, Discussion 3min

Presentation 12min, Discussion 3min

Chairpersons: Hiroyuki Kamiya (Graduate School of Biomedical & Health Sciences, Hiroshima University)
Tatsuo Nunoshiba (Graduate School of Arts and Sciences, International Christian University)

Formaldehyde delays the repair of pyrimidine dimers and enhances the sensitivity to UV

Guang Yang, Yuko Ibuki
Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka

Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka

Somatic cell mutations caused by 365-nm LED-UVA

Xing Fan¹, Sakae Arimoto-Kobayashi¹, Tatsushi Toyooka², Yuko Ibuki², Xiaoxu Zhao², Toshinori Suzuki³, Tomoe Negishi¹

²Graduate School of Nutritional and Environmental Sciences, University of Shizuoka,

²Graduate School of Nutritional and Environmental Sciences, University of Shizuoka,

³Division of Pharmaceutical Sciences, Shujitsu University

Numerical genotoxic effects of clustered 8-oxoguanine DNA adducts locally introduced into the genome

Akira Sassa, Nagisa Kamoshita, Yuki Kanemaru, Masamitsu Honma, Manabu Yasui
Division of Genetics and Mutagenesis, National Institute of Health Sciences

Oxidative stress-induced intestinal tumors in *Mutyh* deficient mice

Mizuki Ohno¹, Noriko Takano¹, Fumiko Sasaki¹, Kenichi Taguchi², Yusaku Nakabeppu^{3,4},
Yasunobu Aoki⁵, Takehiko Nohmi⁶, Yoshimichi Nakatsu¹, Teruhisa Tsuzuki¹

¹Dept. of Medical Biophysics and Radiation Biology, Faculty of Medical Sciences, Kyushu University,

²Cancer Pathology Lab., National Hospital Organization Kyushu Cancer Center,

³Division of Neurofunctional Genomics, Medical Institute of Bioregulation, Kyushu University,

⁴Research Center for Nucleotide Pool, Kyushu University,

⁵Center for Environmental Risk Research, National Institute for Environmental Studies,

⁶ Division of Genetics and Mutagenesis, National Institute of Health Sciences

5caC forms G•T mismatch mimicking-base pairs

Isao Kuraoka, Toshihiro Shibutani, Shigenori Iwai
Graduate School of Engineering Science Osaka University

Graduate School of Engineering Science Osaka University

〈Conference Room (1F)〉

Luncheon Seminar

Chairperson: Madoka Nakajima (University of Shizuoka)

The comet assay in practice; how to get good data from bad tissues

Brian Burlinson
Safety Assessment, Huntingdon Life Sciences

Safety Assessment, Huntingdon Life Sciences

13:00 - 14:00		〈Conference Room (2F)〉
Poster Session		Core time for even numbers
14:00 - 14:45		〈Hitotsubashi Hall〉
Special Lecture		Kitashi Mochizuki Award
		Chairperson: Yoshifumi Uno (Mitsubishi Tanabe Pharma Corporation) Presenter: Yasunobu Aoki (National Institute for Environmental Studies)
PL	14:00	Mammalian cell results with Ames-positive chemicals – correlations with presence or absence of <i>in vivo</i> genotoxic or carcinogenic activity David Kirkland Kirkland Consulting, UK
14:55 - 17:30		〈Hitotsubashi Hall〉
Symposium 2		Examples of Genotoxic and/or Carcinogenic Risk Assessment Based on Mechanism of Action
		Chairpersons: Keiji Wakabayashi (University of Shizuoka) Yoshifumi Uno (Mitsubishi Tanabe Pharma Corporation)
S2-1	14:55	Keynote Lecture Mutational signature of aristolochic acid as a unique biomarker of human cancer Arthur P Grollman Depts of Pharmacological Sciences and Medicine, Stony Brook University, Stony Brook, NY, USA
S2-2	15:25	Mechanism of colonic cancer induction in mice by colon-mutagenic noncarcinogens in a dextran sulfate sodium colitis model Atsushi Hakura Tsukuba Drug Safety, Eisai Co., Ltd.
S2-3	15:50	Approach to the elucidation of chemical mutagenesis and carcinogenesis using a pathological perspective Yuji Ishii Division of Pathology, National Institute of Health Sciences
S2-4	16:15	Genotoxic (mutagenic) and carcinogenic assessment for impurities in pharmaceuticals Tsuneo Hashizume Takeda Pharmaceutical Company Limited, Pharmaceutical Research Division, Drug Safety Research Laboratories
S2-5	16:40	Translation of experimental threshold into human safe dose Masayuki Mishima Chugai Pharmaceutical Co., Ltd., Research Division
S2-6	17:05	Human risk assessment based on genotoxic and/or carcinogenic mechanism of action Yoshifumi Uno Mitsubishi Tanabe Pharma Co., Research Division, Safety Research Laboratories
17:30 - 17:40		〈Hitotsubashi Hall〉
Closing Remarks		

Poster Presentation

Poster View Time: December 4 (Thu), 10:00 - December 5 (Fri), 17:00

Poster Presentation: December 4 (Thu), 17:45 - 18:45 [Core time for odd numbers]
December 5 (Fri), 13:00 - 14:00 [Core time for even numbers]

- P-001 Annual changes of the concentration of indium in ambient air in Tokyo**
Daisuke Nakajima¹, Sumio Goto², Fujio Shiraishi¹, Kazuho Inaba², Hidetaka Takigami¹
¹National Institute for Environmental Studies, ²Azabu University
- P-002 Mutagenicity of airborne particles at 3 prefectures in the coast of the Sea of Japan in winter and spring and the influence of transborder transport**
Souleymane Coulibaly¹, Tomohiro Hasei¹, Nobuyuki Sera², Tadashi Oro³, Mizuka Kido⁴,
Kunihiro Funasaka⁵, Daichi Asakawa⁵, Keiji Wakabayashi^{1,6}, Tetsushi Watanabe¹
¹Kyoto Pharmaceutical University, ²Fukuoka Inst. Health Environ. Sci., ³Tottori Pref. Inst. Pub. Health Environ.,
⁴Toyama Pref. Environ. Sci. Res. Center, ⁵Osaka City Inst. Pub. Health Environ. Sci., ⁶Univ. Shizuoka
- P-003 Risk estimation for airborne particulate matter: comparison with smoking**
(O-6) Masahiko Watanabe, Hiroaki Aso, Katsuya Suemaru
School of Pharmacy, Shujitsu University
- P-004 A multidisciplinary approach to explore the etiology of esophageal cancer in China**
(O-1) Akane Ikeda^{1,6}, Mamoru Kato², Tatsuhiro Shibata², Isao Kurosaka³, Yingsong Lin⁴,
Yoshitaka Matsushima⁵, Osamu Endo⁶, Hitoshi Nakagama¹, Yukari Totsuka¹
¹Natl. Cancer Ctr. Res. Inst. Div. Cancer Development System, ²Div. Cancer Genomics, ³Dept. Bioinformatics,
⁴Aichi Med. Univ., Sch. Med., Dept. Publ. Health., ⁵Tokyo Univ. Agricul., ⁶Azabu University
- P-005 Mutation signature analysis of occupational cholangiocarcinoma and dichloropropane-exposed cells.**
(O-2) Masanori Goto¹, Sachiyo Mimaki², Shoji Kubo³, Katsuya Tsuchihara², Hitoshi Nakagama¹,
Yukari Totsuka¹
¹National Cancer Center Research Institute, ²National Cancer Center EPOC, ³Osaka City University
- P-006 Germline mutation rate and its threshold in mice**
(O-3) Arikuni Uchimura¹, Mayumi Higuchi¹, Yohei Minakuchi², Jo Nishino³, Atsushi Toyoda², Asao Fujiyama²,
Takeshi Yagi¹
¹Graduate School of Frontier Biosciences, Osaka University, ²National Institute of Genetics,
³The Institute of Statistical Mathematics
- P-007 Comparison of classification of germ cell mutagens in EU, Germany or Japan**
Takeshi Morita, Sachiko Komiya
Division of Safety Information on Drug, Food and Chemicals, National Institute of Health Sciences
- P-008 From margin of exposure (MOE) toward internal MOE (iMOE) -Risk assessment of carcinogen using hemoglobin adduct-**
(O-11) Hiroshi Honda, Kenkichi Fujii, Toshio Kasamatsu, Naohiro Ikeda, Naohiro Nishiyama
R&D - Core Technology - Safety Science Research
- P-009 Protein Adductomics, an Emerging Field of Mutagen Exposure Monitoring**
Suresh Thiruppathi¹, Yoshiro Saito², Masamitsu Honma³, Yoji Sato¹, Takayoshi Suzuki¹
¹Div. Cellular and Gene Therapy Products, National Institute of Health Sciences,
²Div. Medical Safety Science, National Institute of Health Sciences,
³Div. Genetics and Mutagenesis, National Institute of Health Sciences

- P-010 Single molecule detection of the DNA modification within the genome**
Kazuhiro Shiizaki, Masanori Goto, Natsuko Hama, Yasuhito Arai, Tatsuhiko Shibata, Hitoshi Nakagama, Yukari Totsuka
 National Cancer Center Research institute
- P-011 Establishment of new assay for detecting inosine-containing RNA**
 Yukie Matsuda, Shigenori Iwai, Isao Kuraoka
 Graduate School of Engineering Science, Osaka University
- P-012 Analysis of DNA damage induced by aldehydes**
 Toshiaki Nakano, Ming-Zhang Xie, Mizuki Goda, Mahmoud Shoukamy, Hiroshi Ide
 Department of Mathematical and Life Sciences, Graduate School of Science, Hiroshima University
- P-013 UV-induced photohydration of cytosines in oligonucleotides**
 Kengo Kawano, Michio Kimura, Kazuo Negishi
 Department of Pharmaceutical Sciences, Nihon Pharmaceutical University
- P-014 Comprehensive analysis of DNA adducts in the liver of rats treated with non-genotoxic carcinogen, 1,4-dioxane.**
Shuntaro Akimoto^{1,3}, Mamoru Kato², Tatsuhiko Shibata², Osamu Endo³, Min Wei⁴, Hitoshi Nakagama¹, Hideki Wanibuchi⁴, Shoji Fukusima⁵, Yukari Totsuka¹
¹Div. Cancer Dev, ²Div. Cancer Genomics, Natl. Cancer Ctr. Res. Inst, ³Azabu University, ⁴Osaka City Univ. Grad. Sch. Med, ⁵Japan Bioassay Research Center
- P-015 Construction of site-specifically modified plasmids to detect frame-shift mutations and analysis of TLS in human cells**
Naohiro Kanayama¹, Masanobu Kawanishi¹, Takeji Takamura², Takashi Yagi¹
¹Graduate School of Science, Osaka Prefecture University, ²Department of Applied Chemistry, Kanagawa Institute of Technology
- P-016 Analyses of TLS in human cultured cells using plasmids site-specifically modified with a single base damage**
Seiya Nagano¹, Yuka Higashigaki¹, Akira Sassa², Masanobu Kawanishi¹, Manabu Yasui², Takeji Takamura³, Takashi Yagi¹
¹Graduate School of Science, Osaka Pref. University, ²Division of Genetics and Mutagenesis, National Institute of Health Sciences, ³Department of Applied Chemistry, Kanagawa Institute of Technology
- P-017 Numerical genotoxic effects of clustered 8-oxoguanine DNA adducts locally introduced into the genome**
 (O-14) Akira Sassa, Nagisa Kamoshita, Yuki Kanemaru, Masamitsu Honma, Manabu Yasui
 Division of Genetics and Mutagenesis, National Institute of Health Sciences.
- P-018 Genotoxicity of perfluorooctanoic acid is due to oxidative stress**
Shuji Tsuda¹, Naoto Shimizu², Tomomi Takahashi³, Norimitsu Saito¹, Yu F Sasaki^{3,4}
¹Iwate Inst Environ Health Sci, ²Agilent Technologies, ³Hachinohe Natl Co. Tech, ⁴Himeji Dokkyo Uni
- P-019 Validation of two-complementary (Q)SAR models for bacterial mutagenicity**
Tatsuya Kato, Shigeharu Muto, Yumiko Iwase, Yoshifumi Uno
 Mitsubishi Tanabe Pharma Corporation
- P-020 Structure activity relationship of mutagenicity of poly aromatic hydrocarbons**
Takeji Takamura¹, Masahiro Ogino^{1,2}, Kentaro Misaki^{3,4}
¹Department of Applied Chemistry, Kanagawa Institute of Technology, ²Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka, ³Research Center of Environmental Quality Management, Kyoto University, ⁴Center for Marine Environmental Studies, Ehime University
- P-021 Construction of selection criteria of the Ames test method using predicted physicochemical parameter values for volatile chemicals**
Mifumi Tsubokura, Saori Fujishima, Masaru Suzuki, Shozo Ogura, Makoto Nakai
 Chemicals Evaluation and Research Institute, Japan (CERI)

- P-022 Assessment of mutagenic potential of the degradation products of *N,N'*-diethylethylenediamine**
Kentaro Takeshita, Chiaki Takeshita, Yoshiyuki Aratani, Toshihide Horiuchi,
 Takuya Nakayama
 Ono Pharmaceutical Co., Ltd.
- P-023 Mutagenicity of ω -3 fatty acid peroxidation products in the Ames test**
Petr Gruz¹, Masatomi Shimizu^{1,2}, Kei-ichi Sugiyama¹, Masamitsu Honma¹
¹Division of Genetics and Mutagenesis, National Institute of Health Sciences, ²Tokyo Healthcare University
- P-024 Bacterial Mutagenicity Study Group (BMS) collaborative study by 19 research institutes: data collection for Ames test of 20 kinds of reagents that are often used in chemical synthesis**
Atsushi Hakura¹, Takumi Awogi², Masayuki Kato³, Kei-ichi Sugiyama⁴
¹Tsukuba Drug Safety, Eisai Co.,Ltd., ²Otsuka Pharmaceutical Co.,Ltd., ³CMIC Bioresearch Center Co.,Ltd.,
⁴Division of Genetics and Mutagenesis, National Institute of Health Sciences
- P-025 Effects of basic amino acids in Ames test**
Kenichiro Suzuki, Shoji Masumori, Makoto Hayashi
 Public Interest Incorporated Foundation Biosafety Research Center
- P-026 The study of the modified Ames assay for amino acid containing material (treat & wash assay) II**
Kumiko Kawakami, Saki Negishi, Emi Masubuchi, Keita Sonohara, Hajime Sui
 Hatano Research Institute, Food and Drug Safety Center
- P-027 Further improvement of high-throughput fluctuation Ames test (Part IX)**
Hajime Sui¹, Kumiko Kawakami¹, Saki Negishi¹, Emi Masubuchi¹, Keita Sonohara¹, Masami Yamada²
¹Hatano Research Institute, Food and Drug Safety Center, ²National Institute of Health Sciences
- P-028 Modified Ames test using a strain expressing human sulfotransferase on genotoxicity evaluation of methyleugenol related compounds**
Kazuyuki Minegawa¹, Hiroshi Honda², Yurika Fujita², Noriko Yamaguchi¹, Takayuki Fukuda¹,
 Yoshihiro Oguma¹, Naohiro Ikeda², Toshio Kasamatsu², Naohiro Nishiyama²
¹Tokyo Laboratory, BoZo Research Center Inc., ²R&D - Core Technology - Safety Science Research
- P-029 Photocytotoxicity and photogenotoxicity of fourteen selected quinolones**
Saori Fujishima, Mifumi Tsubokura, Yu Shimamura, Shozo Ogura, Makoto Nakai
 Chemicals Evaluation and Research Institute, Japan
- P-030 Genotoxicity of animal carcinogen diphenylamine**
Toshiaki Sasaki, Chigusa Ishioka, Masumi Asakura, Shoji Fukushima
 Japan Bioassay Research Center, Japan Industrial Safety and Health Association
- P-031 Basic study of risk assessment using TK6 micronucleus test**
Kenji Takeshita, Shota Yamamoto
 UBE Scientific Analysis Laboratory, Inc
- P-032 Rescue promising false positive materials from positive compounds lists of *in vitro* chromosomal aberration test -Using theory of cytotoxicity index conversion-**
Yurika Fujita, Hiroshi Honda, Naohiro Ikeda
 R&D - Core Technology - Safety Science Research
- P-033 Construction of DNA damage-sensing reporter assay yeasts by using HUG1 and RNR2 promoters.**
Koki Yamamoto, Tomoya Yoshikawa, Sayoko Harashima-Ito, Masanobu Kawanishi, Takashi Yagi
 Graduated school of Science, Osaka Prefecture University
- P-034 Detection of DNA Damage Response Inhibition Using EGFP-MDC1-expressing Cells**
Shun Matsuda¹, Sin-ya Yanagisawa¹, Tsuyoshi Ikura², Tomonari Matsuda¹
¹Fac. of Engineering, Kyoto Univ., ²Radiation Biology Center, Kyoto Univ.

- P-035 Detection and analysis of UV-induced mutations in plant genome**
Munehisa Nakamura¹, Kozo Makino¹, Tatsuo Nunoshiba², Keiichiro Hiratsu¹
¹Department of Applied Chemistry, National Defense Academy,
²College of Liberal Arts, International Christian University
- P-036 Live cell imaging of the effect of S-phase inhibitors on cell cycle progression of mouse m5S cells visualized with PCNA**
Ai Kawakita, Kaori Murata, Kenji Sugimoto
Live Cell Imaging Institute, Graduate School of Life and Environmental Sciences, Osaka Prefecture University
- P-037 Evaluation of cytotoxicity by directly measuring elongation of cell cycle of living m5S cells and application to micronucleus formation assay (2)**
Kenji Sugimoto^{1,2}, Ai Kawakita¹, Kaori Murata^{1,2}
¹Live Cell Imaging Institute, ²Graduate School of Life and Environmental Sciences, Osaka Prefecture University
- P-038 Establishment of novel genotoxicity evaluation systems suitable for nanomaterials based on nanotoxicologic mechanisms.**
Emi Fukai^{1,2}, Masatoshi Watanabe², Hitoshi Nakagama¹, Yukari Totsuka¹
¹Div. Cancer Dev., Natl. Cancer Ctr. Res. Inst., ²Grad. Sch. Engineering, Yokohama Natl. Univ.
- P-039 Toxic evaluation of silver nanoparticles using side scattered light in flow cytometry and phosphorylation of histone H3**
(O-8)
Xiaoxu Zhao, Yuko Ibuki
Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka
- P-040 Particle properties and the genotoxicity of titanium dioxide**
Reimi Yoneda¹, Masanobu Kawanishi¹, Yukari Totsuka², Takashi Yagi¹
¹Graduate school of Science, Osaka Prefecture University, ²National Cancer Center Research Institute
- P-041 Effects of inhibition of BCRP on the chemical ligand-mediated activation of AhR in human hepatoma cell lines.**
Masashi Sekimoto¹, Takuomi Hosaka^{1,2}, Kouichi Yoshinari¹, Masakuni Degawa¹
¹School of Pharmaceutical Sciences, University of Shizuoka,
²Faculty of Pharmaceutical Sciences, Setsunan University
- P-042 Evaluation of steroid hormone-like activities of river water by improved yeast-based bioassay and HPLC analysis**
Sayoko Harashima-Ito, Saki Nakajima, Masanobu Kawanishi, Takashi Yagi
Department of Biology, Graduate School of Science, Osaka Prefecture University
- P-043 A liver micronucleus test in rats following dosing before and after partial hepatectomy**
Miyuki Igarashi, Mayumi Nagata, Chiharu Hattori, Satoru Itoh
Medicinal Safety Research Laboratories, Daiichi-Sankyo Co., Ltd.
- P-044 Investigation of specimen preparation of hepatocytes in the liver micronucleus assay using tissues fixed with formalin**
Miyuki Shigano, Rie Takashima, Hironao Takasawa, Shuichi Hamada
LSI Medience Corporation
- P-045 Mechanism of hepatic micronuclei induction in adult rats by single-dose administration without partial hepatectomy**
Naho Tsuji, Soichiro Hagio, Izumi Ogawa, Masayoshi Abe, Seigo Hayashi, Yusuke Kuroda, Yoshikazu Yamagishi, Tetsuya Yoshino, Satoshi Furukawa
Biological Research Laboratories, Nissan Chemical Industries, Ltd.
- P-046 Influence of the storage time of cell suspension on the results of comet assay**
Jin Tanaka, Ai Miwa, Masahito Fukumuro, Miho Nagai, Fuyumi Uno, Masakatsu Natsume, Sawako Kasamoto, Kenichiro Suzuki, Michiyo Oba, Misako Iio, Shoji Masumori, Makoto Hayashi
Public Interest Incorporated Foundation Biosafety Research Center

- P-047 Comparison of the level of DNA damage between RccHan:WIST rats and CD(SD) rats - negative and positive control data -**
Sawako Kasamoto, Masahito Fukumuro, Ai Miwa, Jin Tanaka, Misako Iio, Masakatsu Natsume, Kenichiro Suzuki, Fuyumi Uno, Shoji Masumori, Makoto Hayashi
Public Interest Incorporated Foundation Biosafety Research Center
- P-048 Integrated analysis of microRNA expression profile and Comet assay in the mouse liver for correct classification of genotoxic compounds**
(O-10) Hiroyuki Oka¹, Takeki Uehara², Yuji Morikawa¹, Hiroyuki Hanafusa¹, Koichi Masuno¹, Hirofumi Miyajima¹
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- P-049 Genotoxicity of acrylamide in germ cells of *gpt* delta mice**
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- P-050 Integration of micronucleus test (peripheral blood, bone marrow, liver, colon) into gene mutation assay of F344 *gpt* delta transgenic rat using dimethylhydrazine**
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- P-051 Effects of a high-fat diet on *in vivo* mutagenicity induced by heterocyclic amine in the colon of *gpt* delta rats**
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- P-052 Age-dependent alterations in mutagenesis induced in lungs of *gpt* delta mice by intratracheal administration of benzo[a]pyrene**
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- P-053 Interlaboratory Trial of the Rat *Pig-a* and PIGRET Assays: MMS collaborative study**
Masami Yamada¹, Katsuyoshi Horibata¹, Akiko Ukai¹, Takafumi Kimoto², Satsuki Chikura², Satoru Itoh³, Shigeharu Muto⁴, Yoshifumi Uno⁴, Hisakazu Sanada⁵, Rie Takashima⁶, Miyuki Shigano⁶, Hironao Takasawa⁶, Shuichi Hamada⁶, Mika Yamamoto⁷, Hisako Hori⁸, Eri Tsutsumi⁸, Kunio Wada⁹, Akihisa Maeda¹⁰, Mizuki Kosaka¹¹, Aoi Kimura¹¹, Ryuta Kikuzuki¹², Yousuke Ogiwara¹², Takahiro Kyoya¹³, Hideki Adachi¹⁴, Yasuaki Uematsu¹⁴, Ikuma Yoshida¹⁵, Kazunori Narumi¹⁶, Takayuki Fukuda¹⁷, Yuta Suzuki¹⁷, Ken Goto¹⁷, Takeshi Morita¹, Masamitsu Honma¹
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¹⁰Toray, ¹¹SNBL, ¹²Taisho Ph., ¹³Kumiai Chemical Ind., ¹⁴Dainippon Sumitomo Ph., ¹⁵Takeda.,
¹⁶YAKULT HONSHA, ¹⁷BoZo R.C.
- P-054 MMS/*Pig-a* collaborative study: Evaluation of the genotoxicity of Acrylamide**
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- P-055 The Collaborative Study of Rat *Pig-a*/PIGRET Assay: Diethylnitrosamine**
Kunio Wada, Yuzo Takezawa, Misaki Abe, Kyomu Matsumoto
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- P-056** **Detection of *in vivo* mutagenesis induced by EMS and iPMS with *Pig-a* and PIGRET assays**
Satoru Itoh, Chiharu Hattori, Akiharu Hanamoto, Shiho Nakayama
 Medicinal Safety Research Laboratories, Daiichi Sankyo Co., Ltd.
- P-057** ***Pig-a* gene mutation and micronucleus induction in rat peripheral blood by methyl methanesulfonate**
 Shigeharu Muto, Katsuya Yamada, Tatsuya Kato, Yumiko Iwase, Yoshifumi Uno
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- P-058** **Induction of mouse colon tumors by colon–mutagenic noncarcinogens in a colitis model**
 (O-9) Naoki Koyama¹, Yuki Seki¹, Jiro Sonoda¹, Shinya Tanahashi², Satoru Hosokawa¹, Shoji Asakura¹,
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- P-059** **Identification of genotoxic mode of action of alectinib**
Kaori Matsuzaki, Shigeki Motoyama, Kenji Tanaka, Asako Harada, Junko Taketo, Chiaki Katoh,
 Akira Takeiri, Masayuki Mishima
 Chugai pharmaceutical Co., Ltd., Research Division
- P-060** **Relation between micronucleus induction by *N*-ethyl-*N*-nitrosourea and circadian rhythm of erythropoietin secretion**
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- P-061** **Possible role of Nrf2 in the *in vivo* mutagenicity of Nitrofurantoin**
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 Takashi Umemura¹
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- P-062** **Involvement of cell proliferation and PP2A inactivation in gene mutation by the hepatocarcinogen estragole**
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 Kumiko Ogawa¹, Takashi Umemura¹
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- P-063** **The influence of Glutathione deficiency on DNA oxidative damage elicited by X-ray radiation**
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- P-064** **Clinical research for antigenotoxicity of Connarus extract against smoking**
Yu F Sasaki^{1,2}, Takanori Nakamura², Ryo Murashige², Taizou Taniguchi², Kayoko Yamasaki²,
 Gisho Honda², Kasumi Ainai¹, Yumi Ishida¹, Yoshihisa Kitamura³, Kazuo Mitani⁴
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- P-065** **Isolation and identification of anti-mutagens in green tea against 1-nitropyrene**
Tomohiro Hasei, Megumi Fujihashi, Fumitaka Shinkai, Yuki Kawai, Tetsushi Watanabe
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- P-066** **Antimutagenicity of *A. arguta* and its mechanisms**
Misako Tada¹, Naoko Miyake¹, Yuma Okimasu², Mari Nishimura², Tomoe Negishi²,
 Sakae Arimoto-Kobayashi²
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- P-067** **Modifying effects of *Actinidia arguta* and its components on 1,2-dimethyl- hydrazine induced colon preneoplastic lesions in male F344 rats**
Naoko Miyake¹, Misako Tada¹, Yuma Okimasu², Mari Nishimura², Chiharu Asahi², Ryoko Hida²,
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- P-068 Antimutagenic mechanism of soybean extract on *N*-methyl-*N*-nitrosourea**
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- P-069 The Genomedefender activities of Aomori prefecture blackcurrant, *In vitro* and *in vivo* evaluation.**
 Ayumi Yamamoto¹, Tokuhisa Hirouchi², Kana Nakashima¹, Saori Kawamorita¹, Yugo Okuya¹, Yoshihiro Kamitai³, Yoji Kato⁴
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- P-070 Enzyme Kinetics of an Alternative Splicing Isoform of Mitochondrial 8-Oxoguanine DNA Glycosylase, OGG1-1b, and compared with the nuclear OGG1-1a**
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- P-071 Oxidative stress-induced intestinal tumors in *Mut*^{yh} deficient mice**
 (O-15) Mizuki Ohno¹, Noriko Takano¹, Fumiko Sasaki¹, Kenichi Taguchi², Yusaku Nakabeppu^{3,4}, Yasunobu Aoki⁵, Takehiko Nohmi⁶, Yoshimichi Nakatsu¹, Teruhisa Tsuzuki¹
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- P-072 Oxidative DNA damage-induced mutagenesis in *Mut*^{yh}-deficient mice**
 Noriko Takano¹, Mizuki Ohno¹, Yohei Inaba², Tsutomu Shimura², Naoki Kunugita², Yusaku Nakabeppu^{3,4}, Yoshimichi Nakatsu¹, Teruhisa Tsuzuki¹
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- P-073 Formaldehyde delays the repair of pyrimidine dimers and enhances the sensitivity to UV**
 (O-12) Guang Yang, Yuko Ibuki
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- P-074 Long-wavelength UVA1 suppresses the repair of DNA damage induced by short-wavelength UV**
 Yuko Ibuki, Guang Yang
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- P-075 An *in vivo* protective roles of DNA polymerase kappa against induction of DNA double strand breaks by mitomycin C — Immunohistological analysis with γ H2AX as an index —**
 Shigeki Motoyama¹, Akira Takeiri¹, Saori Matsuo¹, Naoko Wada², Kouichi Jishage², Masayuki Mishima¹, Naoko Niimi³, Petr Gruz³, Kenichi Masumura³, Masami Yamada³, Takehiko Nohmi⁴
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- P-076 Purification and identification of pyrophosphatase Ham1 for the sanitization of deaminated nucleotides in *Thermus thermophilus***
 Miki Nishimura¹, Emiko Morimoto², Keiichiro Hiratsu³, Tatsuo Nunoshiba^{1,2}
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- P-077 Analysis of Genomic Integrity in *Thermus thermophilus* -The Roles of AP endonuclease-**
 Reiko Aihara¹, Hanaka Mera², Kazune Ezaki², Keiichiro Hiratsu³, Tatsuo Nunoshiba^{1,2}
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- P-078 Human EEPD1 has nuclease activity**
Kenji Okada, Shigenori Iwai, Isao Kuraoka
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- P-079 Re-establishment of *in vitro* Nucleotide excision repair assay using human cell extract**
Yuina Sonohara, Shigenori Iwai, Isao Kuraoka
 Graduate School of Engineering Science, Osaka University
- P-080 Establishment of TLS polymerase mutants in Medaka using TALENs**
Yoshihiro Fujikawa¹, Tomoko Fujiwara¹, Tetsushi Sakuma², Takashi Yamamoto², Takeshi Todo¹
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- P-081 Translesion synthesis past an oxidatively damaged guanine by REV1 and DNA polymerase ζ.**
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- P-082 Analysis of types of DNA damage by tirapazamine using various DNA repair deficient DT40 cell lines.**
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 Shinichiro Masunaga¹, Keizo Tano¹
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- P-083 The Werner syndrome protein promotes mutagenesis induced by 8-hydroxyguanine paired with adenine**
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- P-084 Detection of 5-aza-2'-deoxycytidine using yeast transformants containing human DNMT genes**
Kei-ichi Sugiyama, Makiko Takamune, Hiroko Furusawa, Masamitsu Honma
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- P-085 Detection of DNA demethylating agents by using MGMT inactivated cells**
Miyuki Taniguchi, Masanobu Kawanishi, Takashi Yagi
 Graduate School of Science, Osaka Pref. Univ.
- P-086 Epigenetic changes in the *H-19* gene of cows produced by somatic cell nuclear transfer**
Shizuyo Sutou, Hiroko Morita, Toshiyuki Kudo
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