

November 1 (Mon)

8:30

Door Open

9:00 - 9:05 <On site / Web>

Opening Remarks

Masami YAMADA
President, JEMS 50th Anniversary Annual Meeting
National Defense Academy of Japan

9:05 - 11:00 <On site / Web>

Keynote Lecture

Chairperson: Masami YAMADA (National Defense Academy of Japan)

KL-1 9:05 **Regulatory genotoxicity: past, present and future**

Makoto HAYASHI
makoto international consulting

KL-2 9:40 **Prediction of mutagenic activation with CYP-Template system**

Yasushi YAMAZOE
Emeritus Professor, Tohoku University / Senior Fellow, Food Safety Commission of Japan

KL-3 10:15 **Search for environmental mutagens/carcinogens**

Keiji WAKABAYASHI
Specially Appointed Professor, University of Shizuoka / Former Director, National Cancer Center Research Institute

11:15 - 11:45 <On site / Web>

Commemorative Event

C **50th Commemorative event: Looking back on the 50 years of the society**

Takeshi MORITA¹, Tetsushi WATANABE²
¹National Institute of Technology and Evaluation, ²Kyoto Pharmaceutical University

13:00 - 13:30 <On site / Web>

General Meeting & Awards Ceremony

研究会定例会

ワークショップ

プログラム

Program

基調講演

記念行事

受賞講演

シンポジウム

ePoster

人名索引

13:30 - 14:30 (On site / Web)

Award Lecture**Chairperson:** Masayuki MISHIMA (Translational Research Division, Chugai Pharmaceutical)

JEMS Award 2021

AW 13:30 **Establishment of new mutation research based on transgenic animals and omics analysis**
Takayoshi SUZUKI
 Division of Molecular Target and Gene Therapy Products, National Institute of Health Sciences

JEMS Encouragement Award 2021

EA-1 13:50 **Reduced carcinogenic potential of estrogens by chemical modifications: A novel approach to the application of basic carcinogenesis research**
Yoshinori OKAMOTO
 Faculty of Pharmacy, Meijo University

EA-2 14:02 **Investigation on the mechanism of micronucleus induction by aneugens in TK6 cells toward standardization of micronucleus assay**
Kiyohiro HASHIMOTO
 Drug Safety Research and Evaluation, Takeda Pharmaceutical Co. Ltd.

JEMS Service Award 2021

SA 14:14 **Contribution to establishment of new detection system for chromosomal aberrations by multicolor FISH and improvement of accuracy of *in vivo* testing in regulatory science**
Kyomu MATSUMOTO
 Toxicology Division, The Institute of Environmental Toxicology

14:45 - 16:45 (On site / Web)

Symposium 1 Evaluating Genome Safety - New Technologies and Challenges -
 Presentation 20 min, Discussion 4 min

Chairpersons: Kenichi MASUMURA (National Institute of Health Sciences)
 Yukari TOTSUKA (National Cancer Center / Nihon University School of Pharmacy)

S1-1 14:45 **Bacterial mutagenicity in silico screening assessment in the pharmaceutical industry**
Naoki KOYAMA¹, Atsushi HAKURA¹, Masaki KURAKAMI¹, Tomoki NISHIOKA²,
Seiji HITAOKA², Nicolas K SHINADA³, Sucheendra K PALANIAPPAN³,
Yukiko MATSUOKA³, Suman K CHAKRAVARTI⁴, Roustem D SAIKHOV⁴,
Shoji ASAKURA¹
¹Global Drug Safety, Eisai Co., Ltd., ²hhc Data Creation Center, Eisai Co., Ltd.,
³SBX Corporation, ⁴MultiCASE Inc

S1-2 15:09 ***In vitro* genotoxicity assessment using *in vivo* simulating assay platforms**
Yukari TOTSUKA^{1,2}
¹Laboratory of Environmental Toxicology and Carcinogenesis, Nihon University School of Pharmacy,
²National Cancer Center Research Institute

- S1-3** 15:33 **Safety assessment of genome editing technology**
Ryuichi ONO
 Division of Cellular and Molecular Toxicology, Center for Biological Safety and Research (CBSR),
 National Institute of Health Sciences (NIHS)
- S1-4** 15:57 **Development of a highly accurate genome sequencing method and its application in genome-wide analysis of somatic mutations**
Shoji MATSUMURA, Yuki OTSUBO, Takako HIROSE, Naohiro IKEDA,
 Masayuki YAMANE
 R&D, Safety Science Research, Kao Corporation
- S1-5** 16:21 **Germ cell mutagenicity and *de novo* germline mutations in the next generation**
Kenichi MASUMURA
 Division of Genetics and Mutagenesis, National Institute of Health Sciences

17:00 - 18:00 〈Web〉

ePoster (Online Poster Session)

17:00 [Odd number of P1-37] Core time 1

17:30 [Odd number of P39-75] Core time 2

18:30 - 20:00 〈Web〉

Banquet (Online)

November 2 (Tue)

9:00 - 11:00 ‹On site / Web›

Symposium 2 Environmental Mutation Genomic Research to Combat Infectious Diseases

Presentation 20 min, Discussion 4 min

Chairpersons: Hiroshi HONDA (Kao Corporation)
Masamichi MURAMATSU (National Institute of Infectious Disease)

- S2-1** 9:00 **The potential of environmental mutagenomics research in infectious diseases**
Takayoshi SUZUKI
Division of Molecular Target and Gene Therapy Products, National Institute of Health Sciences
- S2-2** 9:24 **APOBEC protein: a double-edged sword against pathogens**
Masamichi MURAMATSU
National Institute of Infectious Disease
- S2-3** 9:48 **New coronavirus evolutionary mechanism and mutation visualization application**
Kouetsu OGASAWARA
Department of Immunobiology, Institute of Development, Aging and Cancer, Tohoku University
- S2-4** 10:12 **Mutations in RNA viruses**
Yoshihiro KAWAOKA^{1,2}
¹National Center for Global Health and Medicine, ²Institute of Medical Science University of Tokyo
- S2-5** 10:36 **Perspectives for wastewater-based epidemiology by genomic sequencing and detection of SARS-CoV-2 variants**
Ryo HONDA
Faculty of Geosciences and Civil Engineering, Kanazawa University

11:15 - 12:15 ‹Web›

ePoster (Online Poster Session)

- 11:15 [Even number of P2-38] Core time 3
- 11:45 [Even number of P40-76] Core time 4

13:45 - 15:45 ‹On site / Web›

Symposium 3 A New Approach to Environmental Mutagen Genome Analysis - Small but Spicy Data Analysis

Presentation 20 min, Discussion 4 min

Chairpersons: Isao KURAOKA (Fukuoka University)
Tomonari MATSUDA (Kyoto University)

- S3-1** 13:45 **Functional analysis of BRCA1 & BRCA2 database**
Isao KURAOKA
Department of Chemistry, Faculty of Science, Fukuoka University

S3-2	14:09	A data-driven approach to a new frontier in chromatin biology <u>Tsuyoshi IKURA</u> ¹ , Kanji FURUYA ² , Takuma SHIRAKI ³ , Masae IKURA ¹ ¹ Laboratory of Chromatin Regulatory Network, Department of Genome Biology, Radiation Biology Center, Graduate School of Biostudies, Kyoto University, ² Laboratory of Genome Maintenance, Department of Genome Biology, Radiation Biology Center, Graduate School of Biostudies, Kyoto University, ³ Kindai University, BOST	研究会 定例会
S3-3	14:33	Animal science in the age of big data <u>Takuma SHIRAKI</u> Kindai University, BOST	ワー クシ ョップ
S3-4	14:57	Radiation-induced chromosome aberrations revealed by high-throuput analysis <u>Satoshi TASHIRO</u> Department of Cellular Biology, RIRBM, Hiroshima University	プ ロ グ ラ ム
S3-5	15:21	Development of innovative antibody screening method by tracing evolution of antibody <u>Tomonari MATSUDA</u> ¹ , Shinya OHASHI ² , Yoko AKAZAWA ⁴ , Kota FUJII ² , Yuuki KONDOU ² , Shang SHEN ¹ , Soyoka HARIYA ¹ , Kaede YANASE ¹ , Katsuyuki SAKANAKA ² , Takashi MIZOWAKI ² , Tsuyoshi IKURA ³ , Manabu MUTO ² , Yoshihisa HAGIHARA ⁴ ¹ Graduate School of Engineering, Kyoto University, ² Graduate School of Medicine, Kyoto University, ³ Radiation Biology Center, Kyoto University, ⁴ National Institute of Advanced Industrial Science and Technology	Program

16:00 - 16:15 〈On site / Web〉

The Best Presentation Awards Ceremony & Closing Remarks

研究会
定例会

ワー
クシ
ョップ

プ
ロ
グ
ラ
ム

Program

基
調
講
演

記
念
行
事

受
賞
講
演

シ
ン
ポ
ジ
ウム

ePoster

人
名
索
引

ePoster (Online Poster Session)

Poster View Time: 2021 October 26 (Tue) - November 5 (Fri)

Poster Discussion: [Core time 1] November 1 (Mon), 17:00 - 17:30 [P1-37 for odd number]
[Core time 2] November 1 (Mon), 17:30 - 18:00 [P39-75 for odd number]
[Core time 3] November 2 (Tue), 11:15 - 11:45 [P2-38 for even number]
[Core time 4] November 2 (Tue), 11:45 - 12:15 [P40-76 for even number]

Mutagenicity and genotoxicity

- P-1** **Influence of antioxidant capacity on micronucleus induction by cigarette smoke in various mammalian cell lines**
Haruna YAMAMOTO, Tsuneo HASHIZUME, Toshiro FUKUSHIMA, Kaori SHIBUYA
Japan Tobacco inc.
- P-2** **Development of a micronucleus test using EpiAirway™, a three-dimensional human airway model**
Satoru MUNAKATA, Taku WATANABE, Junichiro SAITO, Tomohiro TAKAHASHI,
Tsuneo HASHIZUME
Scientific Product Assessment Center, Japan Tobacco Inc.
- P-3** **Examination of correspondence to toxicity test using particle counting device**
Yasunori ODA
R&I Business Development, Sysmex Corporation
- P-4** **Comparison of the *in vitro* micronucleus assay and ToxTracker® assay for genotoxic evaluation of various tobacco products**
Junichiro SAITO, Tomohiro TAKAHASHI, Toshiro FUKUSHIMA, Tsuneo HASHIZUME
Japan Tobacco Inc.
- P-5** **Chemical and biological characterization of aerosols generated from heated tobacco products**
Tomohiro TAKAHASHI, Tsuneo HASHIZUME, Toshiro FUKUSHIMA
Japan Tobacco Inc.
- P-6** **Evaluation of the volatile compounds using the miniaturized Ames test**
Yoko INOUE, Ryoko MATSUYAMA, Hiroyuki ASANO, Sachiko KITAMOTO
Sumitomo Chemical Co., Ltd.
- P-7** **Establishment of an epigenotoxicity assay using the human lymphoblastoid TK6 cell line**
Mizuki ODAGIRI¹, Manabu YASUI², Masamitsu HONMA², Kei-Ichi SUGIYAMA², Kiyoe URA¹,
Akira SASSA¹
¹Graduate School of Science and engineering, Chiba University,
²Division of Genetics and Mutagenesis, National Institute of Health Sciences
- P-8** **Development of follow-up evaluation method for positive results in micronucleus tests —Investigation of the usefulness of CREST immunohistochemical staining—**
Takahiro HAYASHI, Yui YOSHIMOTO, Takayuki FUKUDA, Shuichi HAMADA
BoZo Research Center Inc.
- P-9** **The effect of aging on the liver micronucleus assay - Verification by a two-week repeated oral dose study of DEN**
Kensuke SATOMOTO, Koji MITA, Go MARUYAMA, Kensuke SHIBAKITA, Tatsuya MITSUMOTO,
Atsushi WAKITA, Yuya YASUDA, Shuichi HAMADA
BoZo Research Center Inc.

- P-10** **A genome sequencing-based mutation analysis method using human cultured cells**
Takako HIROSE, Shoji MATSUMURA, Naohiro IKEDA, Masayuki YAMANE
R&D Safety Science Research, Kao Corporation
- P-11** **Bacterial Mutagenicity Study Group (BMS): Collaborative study of Ames test data collection in *Salmonella typhimurium* TA97, TA97a and *Escherichia coli* WP2 *uvrA*/pKM101**
Yasuyoshi MIURA¹, Toshiro FUKUSHIMA¹, Kei-ichi SUGIYAMA², Masayuki KATO³
¹R&D Group, Japan Tobacco Inc., ²Division of Genetics and Mutagenesis, National Institute of Health Sciences, ³CMIC Bioresearch Center, CMIC Pharma Science Co., Ltd.
- P-12** **Improvement of the Ames tester strain TA104 to detect mutations occurring in AT base pairs**
Daichi KOYABU, Masami YAMADA
Department of Applied Chemistry, National Defense Academy
- P-13** **Evaluation of diethylnitrosamine by *Pig-a*/PIGRET assay after four repeated doses**
Kunio WADA, Yoshiya YAMAMURA, Yuzo TAKEZAWA, Kyomu MATSUMOTO
Toxicology Division, The Institute of Environmental Toxicology
- P-14** **A novel assessment method for tissue-aging using histone H2AX phosphorylation induced by heat stress**
Yuta MORI¹, Takashi SUZUKI¹, Tatsushi TOYOOKA², Yukako KOMAKI¹, Yuko IBUKI¹
¹Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka, ²National Institute of Occupational Safety and Health
- P-15** **Detection of genome-wide mutagen-induced ultra-rare mutations by whole genome sequencing**
Xinyue YOU¹, Takayoshi SUZUKI², Yang LUAN¹
¹Shanghai Jiaotong University, ²National Institute of Health Sciences
- P-16** **An evaluation of γ H2AX focus induction in TK6 cells as a follow-up approach after positive results in the Ames test; evaluation of structural isomers and analogs**
Misaki TANAKA¹, Akira TAKEIRI¹, Kaori MATSUZAKI¹, Kenji TANAKA¹, Kumiko OGAWA², Manabu YASUI³, Kei-ichi SUGIYAMA³, Masamitsu HONMA^{3,4}, Masayuki MISHIMA¹
¹Translational Res. Div., Chugai Pharmaceutical Co., Ltd., ²Div. Pathol., NIHS, ³Div. Genetics & Mutag., NIHS, ⁴Div. Gen. Affairs, NIHS
- P-17** **Comparison of pre-incubation method and plate method for miniaturized Ames test using 6-well plates**
Yuki OKADA, Satsuki CHIKURA, Kumiko OKADA, Rie MORISHIMA, Tsuki YAMAMOTO, Takafumi KIMOTO, Takeshi IJIMA
TEIJIN PHARMA LIMITED

New technology

- P-18** **Single-strand specific nuclease enhances accuracy of error-corrected sequencing technology and enables ultra-rare mutation detection**
Yuki OTSUBO, Shoji MATSUMURA, Naohiro IKEDA, Takako HIROSE, Masayuki YAMANE
Safety Science Research, Kao Corporation
- P-19** **Designed synthesis of the chromosomal translocations and micronucleus induction by the genome editing**
Kohji YAMAKAGE¹, Manabu YASUI¹, Akiko UKAI¹, Yoshinori TSUKUMO², Arihiro KOHARA³, Kei-ichi SUGIYAMA¹, Takayoshi SUZUKI²
¹Division of Molecular Target and Gene Therapy Products, National Institute of Health Sciences, ²Division of Molecular Target and Gene Therapy Products, National Institute of Health Sciences, ³JCRB Cell Bank, National Institutes of Biomedical Innovation, Health and Nutrition

Carcinogenesis

- P-20** **Free radical-mediated acetaldehyde formation by model reactions of dietary components: effects of meat, wine, cooking oil and coffee**
Hiroshi KASAI, Kazuaki KAWAI
 Department of Environmental Oncology, University of Occupational and Environmental Health
- P-21** **Investigation for mechanisms of 1,3-dichloro-2-propanol-induced hepato- and renal carcinogenesis using medium-term *gpt* delta rat models**
Kohei MATSUSHITA¹, Shinji TAKASU¹, Yuji ISHII¹, Takeshi TOYODA¹, Takanori YAMADA^{1,2}, Tomomi MORIKAWA¹, Kumiko OGAWA¹
¹Division of Pathology, National Institute of Health Sciences,
²Laboratory of Veterinary Pathology, Tokyo University of Agriculture and Technology
- P-22** **Characteristic mutations induced in the small intestine of *gpt* delta mice under a mismatch repair-deficient condition**
Yasunobu AOKI¹, Mizuki OHNO², Michiyo MATSUMOTO¹, Michi MATSUMOTO¹, Kenichi MASUMURA³, Takehiko NOHMI⁴, Teruhisa TSUZUKI²
¹National Institute for Environmental Studies, Center for Health and Environmental Risk Research,
²Kyushu University, Faculty of Medical Sciences,
³National Institute of Health Sciences, Division of Genetics and Mutagenesis,
⁴National Institute of Health Sciences, Division of Pathology
- P-23** **Whole-genome sequencing of acetamide-induced liver tumors in F344 rats**
Yuji ISHII¹, Kenji NAKAMURA^{1,2}, Norifumi TAKIMOTO^{1,2}, Tatsuya MITSUMOTO^{1,3}, Moeka NAMIKI¹, Makoto SHIBUTANI², Kumiko OGAWA¹
¹Division of Pathology, National Institute of Health Sciences,
²Laboratory of Veterinary Pathology, Tokyo University of Agriculture and Technology,
³Faculty of Animal Health Technology, Yamazaki University of Animal Health Technology
- P-24** ***In vitro* micronucleus test for the hepatocarcinogen acetamide using CHL/IU cells and RL-34 cells**
Moeka NAMIKI, Yuji ISHII, Kenji NAKAMURA, Norifumi TAKIMOTO, Tatsuya MITSUMOTO, Shinji TAKASU, Kumiko OGAWA
 Division of Pathology, National Institute of Health Sciences
- P-25** **Assessment of the carcinogenic mechanism of acetamide in cell transformation assay using Bhas 42 cells**
Maki NAKAMURA, Hirokazu HIGA, Takahiro HAYASHI, Takayuki FUKUDA, Shuichi HAMADA
 Toxicology division, Tokyo Laboratory, BoZo Research Center Inc.

Antimutagenesis and anticarcinogenesis

- P-26** **Validation of a DNA binding assay for RNA-targeted drug discovery**
Nozomu KATO, Masamitsu ANDO, Chinami ARUGA, Toshiyuki HIMIYAMA, Fumie TERANISHI, Tomomi TANIGUCHI
 Discovery Technology Laboratories, Sohyaku. Innovative Research Division, Mitsubishi Tanabe Pharma Corporation
- P-27** **Alteration of γ -H2AX by glucose environment**
Takuto OKUYA, Yukako KOMAKI, Yuko IBUKI
 Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka
- P-28** **Comparison of antimutagenicity, radical scavenging activity and the content of polyphenolics between juice of wild grapes and berries cultivated in Japan**
Sakae ARIMOTO¹, Yusuke TANIMOTO¹, Ryosuke MOCHIOKA²
¹Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University,
²University Farm, Faculty of Agriculture, Kagawa University

- P-29** **Chemical structure, synthesis, and anti-proliferative activity of linderapyrone as a new Wnt signal inhibitor**
 Takahiro MATSUMOTO¹, Takahiro KITAGAWA¹, Daisuke IMAHORI¹, Eishi ASHIHARA², Tetsushi WATANABE¹
¹Kyoto Pharmaceutical University, Department of Public Health,
²Kyoto Pharmaceutical University, Department of Clinical and Translational Physiology
- P-30** **Protective effect of blackcurrant extract against UVC-induced cell damage**
 Nanami MIURA, Yuzuki URATA, Moka NUMATA, Ayumi YAMAMOTO
 Material and Biological Engineering Course, Department of Industrial System Engineering, National Institute of Technology, Hachinohe College
- P-31** **The cell-death inducing activities of sesquiterpenes isolated from *Valeriana fauriei* via inhibition of Hsp105 expression levels**
 Takahiro KITAGAWA, Takahiro MATSUMOTO, Daisuke IMAHORI, Hayato YOSHIKAWA, Masaya OKAYAMA, Tetsushi WATANABE
 Kyoto Pharmaceutical University
- P-32** **Cell death-inducing activities via P-glycoprotein inhibition of the constituents isolated from fruits of *Nandina domestica***
 Yuki TAKEDA, Takahiro MATSUMOTO, Daisuke IMAHORI, Takahiro KITAGAWA, Tetsushi WATANABE
 Kyoto Pharmaceutical University

Environmental pollution

- P-33** **Polycyclic aromatic compounds producing inflammatory cytokines in lung epithelial cells**
 Kentaro MISAKI¹, Takeji TAKAMURA², Hirohisa TAKANO^{3,4}, Ken-ichiro INOUE¹
¹School of Nursing, University of Shizuoka, ²Department of Applied Chemistry, Kanagawa Institute of Technology,
³Graduate School of Global Environmental Studies, Kyoto University,
⁴Graduate School of Engineering, Kyoto University,
- P-34** **Establishment of pathogenic bacterial isolation method using blood agar medium**
 Kengo IKEBATA, Tomonari MATSUDA
 Graduate School of Engineering, Kyoto University

Mutagenicity and genotoxicity

- P-35** **AhR ligand-like action of bromacil, a widely used herbicide**
 Mebae KOIKE¹, Rikako KARUBE¹, Showa KOMATSU¹, Saki KANAMARU¹, Sayoko Ito HARASHIMA², Masanobu KAWANISHI², Takashi YAGI², Kazuhiro SHIIZAKI¹
¹Faculty of Life Science, Toyo University, ²Graduate School of Science, Osaka Prefecture University

Environmental pollution

- P-36** **Improvement of reporter gene assay for nuclear receptor ligand detection using protoplasmic yeast with inactivation of CWP and PDR genes**
 Yuya FUJITA, Sayoko ITO-HARASHIMA, Yuto HANAICHI, Honami ONISHI, Kentaro MORI, Mami MATANO, Takashi YAGI, Masanobu KAWANISHI
 Department of Biological Sciences, Graduate School of Science, Osaka Prefecture University
- P-37** **Exploration of novel native response elements by reporter gene assay using a yeast expressing juvenile hormone receptor Methoprene-tolerant of *Daphnia magna***
 Sayoko ITO-HARASHIMA¹, Masahiro OGAWA^{1,2}, Takahiro KYOYA², Megumi TERADA², Masanobu KAWANISHI¹, Takashi YAGI¹
¹Department of Biological Science, Graduate School of Science, Osaka Prefecture University,
²Life Science Research Institute, Kumiai Chemical Industry Co. Ltd.
- P-38** **Evaluation of the novel aldehyde detecting fluorescence probe**
 Takeji TAKAMURA
 Department of Applied Chemistry, Kanagawa Institute of Technology

Mutagenicity and genotoxicity

- P-39 Investigation of skin accumulation and genotoxicity of ortho-phenylenediamine**
 Yonggang QI^{1,2}, Tatsushi TOYOOKA², Hiroki KASHIWAGI², Rui-sheng WANG², Shigeki KODA², Hyogo HORIGUCHI¹
¹Kitasato University Graduate School of Medical Sciences,
²National Institute of Occupational Safety and Health, Japan
- P-40 Mechanism of oxidative DNA damage induced by acrylohydroxamic acid, a putative metabolite of acrylamide**
 Hatasu KOBAYASHI¹, Yurie MORI^{1,2}, Minami YATAGAWA¹, Yoshio FUJITA³, Shinya KATO⁴, Shosuke KAWANISHI³, Mariko MURATA¹, Shinji OIKAWA¹
¹Department of Environmental and Molecular medicine, Mie University Graduate School of Medicine,
²Faculty of Pharmacy, Gifu University of Medical Science,
³Faculty of Pharmaceutical Science, Suzuka University of Medical Science,
⁴Radioisotope Experimental Facility, Advanced Science Research Promotion Center, Mie University
- P-41 Evaluation of cytotoxicity and genotoxicity of extracts from unutilized marine organisms**
 Haruto TAKEGAHARA¹, Takasi KAMADA², Aki KATO³, Kensuke KANEKO¹, Ayumi YAMAMOTO¹
¹Material and Biological Engineering Course, Department of Industrial System Engineering, National Institute of Technology, Hachinohe College,
²Department of Materials and Life Science, Shizuoka Institute of Science and Technology,
³Graduate School of Integrated Sciences for Life, Hiroshima University
- P-42 Preferential action of Polζ on guanine DNA adducts induced by rubiadin, a renal carcinogen**
 Tatsuya MITSUMOTO^{1,2}, Yuji ISHII¹, Norifumi TAKIMOTO^{1,3}, Moeka NAMIKI¹, Shinji TAKASU¹, Takehiko NOHMI¹, Kumiko OGAWA¹
¹Division of pathology, National Institute of Health Science,
² Faculty of Animal Health Technology, Yamazaki University of Animal Health Technology,
³Laboratory of Veterinary Pathology, Tokyo University of Agriculture and Technology
- P-43 Analysis of nucleotide incorporation and primer extension opposite Ua by translesion synthesis DNA polymerases**
 Taishu KAWADA, Kyosuke TOKORODANI, Ryuto ANABUKI, Takanobu KOBAYASHI, Hiroshi MIYAZAWA, Katsuhito KINO
 Kagawa School of Pharmaceutical Sciences, Tokushima Bunri University
- P-44 Yields and spectra of DNA damage produced by reactor neutron radiation**
 Hiroaki TERATO¹, Yuka TOKUYAMA², Kanae MORI², Takeshi SAITO³, Toshiro MATSUDA⁴
¹Advanced Science Research Center, Okayama University,
²Analytical Research Center for Experimental Sciences, Saga University,
³Institute for Integrated Radiation and Nuclear Science, Kyoto University,
⁴Atomic Energy Research Institute, Kindai University

Environmental pollution

- P-45 Analysis of somatic mutations induced by chronic internal exposure to Cs-137 using *rpsL*-transgenic mice**
 Mizuki OHNO¹, Noriko TAKANO², Hiroo NAKAJIMA³, Hiroshi ISHIHARA⁴, Yoshimichi NAKATSU¹, Teruhisa TSUZUKI⁵
¹Department of Medical Biophysics and Radiation Biology, Faculty of Medical Sciences, Kyushu University,
²Faculty of Design, Kyushu Univ., ³Institute for Radiation Sciences, Osaka Univ.,
⁴Research Center for Radiation Emergency Medicine, National Institute of Radiological Sciences,, ⁵Kyushu Univ.
- P-46 Antitumor immune response by low-dose internal exposure ¹³⁷Cs in mice**
 Hiroo NAKAJIMA¹, Katsuko UNO², Mizuki OHNO³, Hiroshi ISHIHARA⁴, Teruhisa TSUZUKI⁵, Yoshiharu YONEKURA¹
¹Institute for Radiation Sciences, Osaka Univ., ²Louis Pasteur Center for Medical Research,
³Dept. of Medical Biophysics and Radiation Biology, Faculty of Med. Sci., Kyushu Univ.,
⁴Internal Decorporation Res. Team, Dept. of Basic Med. Sci. for Rad. Damag., Natl. Inst. Radiological Sciences,
 Natl. Inst. Quantum and Radiological Science and Technology, ⁵Kyushu Univ.

Mutagenicity and genotoxicity

- P-47** ***In vivo* genotoxicity assessment of multi-walled carbon nanotubes using the optimized lung micronucleus assay**
Katsuyoshi HORIBATA¹, Motoki HOJO², Tomoko ANDO¹, Satoshi YOKOTA³, Yuhji TAQUAHASHI³, Norihiro KOBAYASHI⁴, Hironao TAKASAWA⁵, Shuichi HAMADA⁶, Kei-ichi SUGIYAMA¹, Masamitsu HONMA⁷
¹Division of Genetics and Mutagenesis, National Institute of Health Sciences,
²Department of Pharmaceutical and Environmental Sciences, Tokyo Metropolitan Institute of Public Health,
³Division of Cellular and Molecular Toxicology, National Institute of Health Sciences,
⁴Division of Environmental Chemistry, National Institute of Health Sciences, ⁵LSIM Safety Institute Corporation,
⁶Bozo Research Center Inc., ⁷Division of General Affairs, National Institute of Health Sciences
- P-48** **Mismatch repair mechanism involved in micronucleus induction by alkylating agents in the dark period**
Keiichi ITOH¹, Shoji MASUMORI¹, Mizuki OHNO², Teruhisa TSUZUKI², Kayoko SHIMOI³
¹BioSafety Research Center, ²Kyusyu University, ³University of Shizuoka
- P-49** **3-azido-1,2-propanediol is a potent mutagen in cultured human cells**
Petr GRÚZ¹, Manabu YASUI¹, Akiko UKAI¹, Katsuyoshi HORIBATA¹, Masamitsu HONMA², Kei-ichi SUGIYAMA¹
¹Division of Genetics and Mutagenesis, National Institute of Health Sciences, ²National Institute of Health Sciences
- P-50** **Characterization of MGMT knock-in TK6 cells for genotoxicity tests**
Manabu YASUI¹, Akira SASSA², Akiko UKAI¹, Jun ADACHI³, Takayoshi SUZUKI⁴, Masamitsu HONMA⁵, Kei-ichi SUGIYAMA¹
¹Div. Genetics & Mutag., NIHS., ²Graduate School of Science, Chiba University, ³Lab. Proteome Res., NIBIOHN, ⁴Div. Mol. Target & Gene Therapy Prod., NIHS, ⁵Div. Gen. Affairs, NIHS.
- P-51** **Bacterial nitroreductase SnrA involved in the metabolic activation of aristolochic acid**
Daichi KOYABU¹, Yang LUAN², Takayoshi SUZUKI³, Masami YAMADA¹
¹Applied Chemistry, National Defense Academy, ²Shanghai Jiaotong University School of Medicine, ³National Institute of Health Sciences
- P-52** **Mitochondrial dysfunction induced by gallium and indium chemicals: A cause of aging and formation of polyploid giant cancer cells**
Shih Wei TAN, Tomonari MATSUDA
Department of Environmental Engineering, Kyoto University

Organic, biological or computational chemistry of mutagens

- P-53** **xenoBiotic: Ames mutagenicity predictor (2021)**
Toshihiko SAWADA^{1,2}, Tomohiro HASHIMOTO¹, Hiroaki WASADA¹, Ayato SATO³, Shinzo KAGABU⁴
¹Faculty of Regional Studies, Gifu University, Tokai National Higher Education and Research System,
²xenoBiotic Inc.,
³Institute of Transformative Bio-Molecules, Nagoya University, Tokai National Higher Education and Research System,
⁴Professor Emeritus, Gifu University
- P-54** **In silico analysis of mutagenicity of nitro polycyclic aromatic hydrocarbons**
Akiko OHNO¹, Yoshio OKIYAMA¹, Akihiko HIROSE¹, Kiyoshi FUKUHARA²
¹National Institute of Health Sciences, ²Showa University School of Pharmacy
- P-55** ***In vitro* formations of homo- and heterodimer of urinary bladder carcinogens, monocyclic aromatic amines**
Takuma KOBAYASHI¹, Takeshi TOYODA², Yasukiyo YOSHIOKA¹, Nakako MURAI¹, Shinji KISHIMOTO¹, Kohei MATSUSHITA², Takanori YAMADA^{2,3}, Kumiko OGAWA², Kenji WATANABE¹, Takeji TAKAMURA⁴, Yukari TOTSUKA^{5,6}, Keiji WAKABAYASHI¹, Noriyuki MIYOSHI¹
¹University of Shizuoka, ²National Institute of Health Sciences, ³Tokyo University of Agriculture and Technology, ⁴Kanagawa Institute of Technology, ⁵National Cancer Center, ⁶Nihon University

- P-56** **Ames test and structure-activity relationship on naphthyridine and azaindole derivatives**
Masaki KURAKAMI, Atsushi HAKURA, Takeshi YAMAGATA, Akihiro KAWADE, Rika SATO,
Naoki KOYAMA, Dai KAKIUCHI, Shoji ASAKURA
Global Drug Safety, Eisai Co., Ltd

Regulatory science

- P-57** **Collaborative study of thresholds for mutagens: hormetic responses in the micronucleus test with lymphoid cells**
Shizuyo SUTOU¹, Akiko KOEDA², Kana KOMATSU², Toshiyuki SHIRAGIKU³, Hiroshi SEKI⁴,
Toshiyuki KUDO¹
¹School of Pharmacy, Shujitsu University, ²Ina Research Inc.,
³Research Institute, Otsuka Pharmaceutical Co., Ltd., ⁴Safety Studies Section, BML Inc.

Molecular biology of mutagens

- P-58** **Effects of double knockdown of OGG1 and WRN on the action-at-a-distance mutations induced by 8-oxo-7,8-dihydroguanine (8-hydroxyguanine) (II)**
Yoshihiro FUJIKAWA, Ruriko FUKUSHIMA, Yudai ZAIMA, Tetsuya SUZUKI, Hiroyuki KAMIYA
Graduate School of Biomedical and Health Sciences, Hiroshima University
- P-59** **The effects of CpG methylation on the action-at-a-distance mutagenesis by 8-oxo-7,8-dihydroguanine**
Tetsuya SUZUKI, Hiroyuki KAMIYA
Graduate School of Biomedical and Health Sciences, Hiroshima University
- P-60** **Double knockdown of APOBEC3A and APOBEC3B suppresses the action-at-a-distance mutations induced by 8-oxo-7,8-dihydroguanine**
Ruriko FUKUSHIMA, Tetsuya SUZUKI, Hiroyuki KAMIYA
Graduate School of Biomedical and Health Sciences, Hiroshima University
- P-61** **Functions of SPRTN and proteasome-dependent pathways involved in repair of DNMT1-DNA cross-link damage**
Toshiaki NAKANO¹, Masataka TUDA², Takahito MORIWAKI³, Hiroyuki SASANUMA⁴,
Masanobu KAWANISHI⁵, Ken AKAMATSU¹, Hiroshi IDE², Keizo TANO⁵
¹National Institutes of Quantum and Radiological Science and Technology (QST),
²Dept. of Math. and Life sci., Gradu. Sci., Hiroshima, ³Kawasaki Medi. Sch. Mol. and Gene. Medi,
⁴Tokyo Metr. Insti. of Medi. Sci., ⁵Dept. Bio. Sci., Osaka Pref. Univ
- P-62** **Molecular mechanism of excessive immune response caused by aberrant DNA repair**
Ken TAKAFUJI¹, Asuka TACHIKAWA¹, Yuiko MAYUZUMI¹, Kazuma NAKATANI²,
Kaoru SUGASAWA³, Kiyoe URA¹, Akira SASSA¹
¹Graduate School of Science and Engineering, Chiba University,
²Graduate School of Medical and Pharmaceutical Science, Chiba University,
³Biosignal Research Center, Kobe University
- P-63** **The approach to better understand the molecular mechanism of action-at-a-distance mutations using NGS and the low dose-rate irradiation condition**
Shungo EBI¹, Hidehiko KAWAI^{1,2}, Hiroyuki KAMIYA^{1,2}
¹School of Pharmaceutical Sciences, Hiroshima University,
²Graduation School of Biomedical and Health Sciences, Hiroshima University
- P-64** **Investigating the TDP1-mediated error-prone repair of a ribonucleotide embedded into the genome**
Yuiko MAYUZUMI¹, Ken TAKAFUJI¹, Kazuma NAKATANI², Kaoru SUGASAWA³, Kiyoe URA¹,
Akira SASSA¹
¹ Graduate School of Science, Chiba University,
²Graduate School of Medical and Pharmaceutical Sciences, Chiba University,
³Biosignal Research Center, Kobe University

- P-65** **Analysis of action-at-a-distance mutations induced by riboguanosine in DNA**
 Kiyoharu YASUI¹, Tetsuya SUZUKI^{1,2}, Hiroyuki KAMIYA^{1,2}
¹School of Pharmaceutical Sciences, Hiroshima University,
²Graduate School of Biomedical and Health Sciences, Hiroshima University
- P-66** **Analysis of genomic integrity in *Escherichia coli* using a homologous recombination detection system**
 Ayane MARUICHI^{1,2}, Hanaka MERA^{1,3}, Tatsuo NUNOSHIBA¹
¹International Christian University, ²University of California, Berkeley, ³James Cook University
- P-67** **Senescence-caused change of γ -H2AX induction after UV irradiation—relationship with delayed NER-protein release from damaged sites**
 Takashi SUZUKI, Momoka AMANO, Yukako KOMAKI, Yuko IBUKI
 Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka
- P-68** **Fidelity of the sanitizing enzyme Ham1 for deaminated nucleotides in the yeast *Saccharomyces cerevisiae***
 Kenshiro NISHIHARA^{1,2}, Keiichiro HIRATSU³, Tatsuo NUNOSHIBA⁴
¹Course of Advanced Clinical Research of Cancer, Graduate School of Medicine, Juntendo University,
²Division of Epidemiology, Institute for Cancer Control, National Cancer Center,
³Department of Applied Chemistry, National Defense Academy,
⁴Division of Arts and Sciences, College of Liberal Arts, International Christian University
- P-69** **The intracellular impacts of the cysteine related mutations of SOD1 protein**
 Chisaki TAKENAKA¹, Keiichiro HIRATSU², Tatsuo NUNOSHIBA¹
¹Graduate School of Arts & Sciences, International Christian University,
²Department of Applied Chemistry, National Defense Academy
- P-70** **The roles of protein factors in the DNA damage tolerance of abasic sites**
 Yohei SUGIMOTO^{1,2}, Yuji MASUDA^{1,2}, Chikahide MASUTANI^{1,2}
¹Department of Genome Dynamics, Research Institute of Environmental Medicine, Nagoya University,
²Department of Molecular Pharmaco-Biology, Nagoya University Graduate School of Medicine
- P-71** ***p53*-dependent and -independent cellular responses to DNA damage play non-overlapping roles in the maintenance of genomic integrity in iPS cells**
 Ryusei SUGIHARA¹, Hidehiko KAWAI², Hiroyuki KAMIYA²
¹School of Pharmaceutical Sciences, Hiroshima University,
²Graduate School of Biomedical and Health Sciences, Hiroshima University
- P-72** **Cigarette sidestream smoke induced cellular senescence and altered DNA damage response**
 Yukako KOMAKI, Yuko IBUKI
 Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka
- P-73** **Effect of tobacco smoke exposure from early development using human iPS cells on neuronal differentiation**
 Kunio MIYAKE
 Department of Health Sciences, Yamanashi University

Mutagenicity and genotoxicity

- P-74** **Epigenetic transgenerational inheritance and diseases 1. Mental developmental disorders**
 Yukiharu HORIYA^{1,3}, Tohru SHIBUYA^{1,3}, Takeo KUBOTA^{2,3}
¹Laboratory of Environmental Epigenetics, ²Seitoku University, ³Epigenetic Health Network
- P-75** **Scabin showed cytotoxicity in human cells**
 Takuto KUGA, Arato TAKEDACHI, Narumi AOKI-SHIOI, Isao KURAOKA
 Department of Chemistry, Faculty of Science, Fukuoka University

Biological chemistry

- P-76** **Characterizations of *Naja atra* phosphodiesterase as an endonuclease**
Ryosuke SHIKASHO, Yoshifumi ZAITSU, Isao KURAOKA, Narumi AOKI-SHIOI
Department of Chemistry, Faculty of Science, Fukuoka University