November 6 (Mon)

9:00

Registration

9:20 - 9:30 〈Hitotsubashi Hall〉

Opening Remarks

Shuichi HAMADA
President of the 46th JEMS Annual Meeting / LSI Medience Corporation

9:30 - 11:15 〈Hitotsubashi Hall〉

Symposium 1 DNA damage-induced mutagenesis and its suppression

Chairpersons: Hiroyuki KAMIYA (Hiroshima University)
Yuji MASUDA (Nagoya University)

S1-1 9:30 DNA damage-induced mutagenesis and its suppression
Hiroyuki KAMIYA
Graduate School of Biomedical & Health Sciences, Hiroshima University

S1-2 9:47 Regulation of DNA polymerase η in translesion DNA synthesis of UV-induced DNA damage
Yuji MASUDA1,2, Rie KANAO1, Chikahide MASUTANI1
1Department of Genome Dynamics, Research Institute of Environmental Medicine, Nagoya University,
2Department of Toxicogenomics, Nagoya University Graduate School of Medicine

S1-3 10:09 Analysis of mutations arisen from bulky DNA adducts in the cells lacking the nucleotide excision repair and various TLS polymerases, which were established by genome editing
Takashi YAGI1, Yoshihiro FUJIWA1,2, Kodai FUKUMOTO1, Akane TAKENOKUCHI1,
Takeji TAKAMURA-ENYA1, Masanobu KAWANISHI1
1Graduate School of Science, Osaka Prefecture University,
2Present: Graduate School of Medicine, Osaka University,
3Faculty of Engineering, Kanagawa Institute of Technology

S1-4 10:31 DNA-protein cross-links: Detection and biological effects
Hiroshi IDE

S1-5 10:53 The action mechanism and possible application of small molecules destabilizing DNA repair factors
Tsukasa MATSUMAGA
Institute of Medical, Pharmaceutical and Health Sciences, Kanazawa University

11:15 - 12:00 〈Hitotsubashi Hall〉

General Meeting & Award Ceremony
13:00 - 13:50 〈Hitotsubashi Hall〉

**Award Lectures**

**Chairperson:** Yoshifumi UNO (Mitsubishi Tanabe Pharma Co.)

**JEMS Award 2017**

**AW** 13:00  
Significance of DNA repair mechanisms in the suppression of oxidative stress-induced mutagenesis and tumorigenesis in mammals  
Teruhisa TSUZUKI  
Advanced Science Research Center, Fukuoka Dental College

**JEMS Encouragement Award 2017**

**EA** 13:20  
Visualization and quantitative analysis of DNA damage response  
Shun MATSUDA  
Safety Evaluation Center, Ecology&Quality Management Div., CSR Div., Fujifilm Corporation

**JEMS Service Award 2017**

**SA** 13:35  
Contributions to optimization of genotoxicity testing procedures and international standardization of them  
Takeshi MORITA  
National Institute of Health Sciences

13:50 - 15:35 〈Hitotsubashi Hall〉

**Symposium 2 (International Session)**

Recent topics of genotoxicity strategy in drug discovery

**Chairpersons:** Tsuneo HASHIZUME (Axcelead Drug Discovery Partners)  
Hans-Joerg MARTUS (Novartis)

**S2-1** 13:50  
Trends in genotoxicity assessment in drug discovery  
Hans-Joerg MARTUS  
Novartis Institutes for BioMedical Research

**S2-2** 14:15  
In silico prediction coupled with expert interpretation for assessment of mutagenicity in drug discovery  
Atsushi HAKURA, Naoki KOYAMA, Naoki TORITSUKA, Shoji ASAKURA  
Tsukuba Drug Safety, Eisai Co., Ltd., Tsukuba, Ibaraki, Japan

**S2-3** 14:40  
Generalizability of the MultiFlow® DNA Damage Assay and Three Companion Machine Learning Models Investigated with a Set of 54 Diverse Chemicals  
Stephen D. DERTINGER1, Steven M. BRYCE1, Derek T. BERNACKI1, Jeffrey C. BEMIS1, Stephanie L. SMITH-ROE2, Kristine L. WITT2  
1Litron Laboratories,  
2Division of the National Toxicology Program, National Institute of Environmental Health Sciences

**S2-4** 15:05  
Risk mitigation of genotoxicity liability at drug discovery space  
Kiyohiro HASHIMOTO  
Drug Safety Research and Evaluation, Research, Takeda Pharmaceutical Company Limited
15:45 - 16:45 (Hitotsubashi Hall)

**Special Lecture**

**KITASHI MOCHIZUKI Prize Award Lecture**

**Chairpersons:** David KIRKLAND (Kirkland Consulting)
Shuichi HAMADA (LSI Medience Corporation)

**PL 15:45**

**Chromosome segregation errors and chromothripsis in cancer pathogenesis**
Alexander SPEKTOR
Harvard Medical School

16:50 - 17:50 (Hitotsubashi Hall)

**Flash Talk**

**P-1 - 38**

**Chairpersons:** Kazunori NARUMI (Yakult Central Institute)
Takafumi KIMOTO (TEIJIN PHARMA LIMITED)

17:50 - 18:50 (Conference Room (2F))

**Poster Session**

**Core time for P-1 - 38**

19:10 - 20:30 (Star Hall, 2F Josui Kaikan)

**Banquet**
### November 7 (Tue)

<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>8:50</td>
<td>Registration</td>
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| 9:00 - 10:45 | Symposium 3  
New era of environmental mutagenesis  
-epigenetics and de novo mutation-  
Chairpersons: Kenichi MASUMURA (National Institute of Health Sciences)  
Kei-ichi SUGIYAMA (National Institute of Health Sciences) |
| S3-1   | 9:00  
Detection of inherited germline mutations as de novo mutations  
Kenichi MASUMURA  
Division of Genetics and Mutagenesis, National Institute of Health Sciences |
| S3-2   | 9:25  
Somatic mosaic mutations cause human diseases  
Naomichi MATSUMOTO  
Department of Human Genetics, Yokohama City University Graduate School of Medicine |
| S3-3   | 9:50  
Epigenetic Disturbance Induced by Environmental Factors and its Control for  
Cancer Prevention  
Naoko HATTORI, Eriko OKOCHI-TAKADA, Tohru NIWA, Toshikazu USHIJIMA  
Division of Epigenomics, National Cancer Center Research Institute |
| S3-4   | 10:15  
Development of detection system for epigenetic mutagen  
Kei-ichi SUGIYAMA  
Division of Genetics and Mutagenesis, National Institute of Health Sciences |
| 10:50 - 11:50 | Flash Talk  
P-39 - 55, P-80, P-56 - 79  
Chairpersons: Kazunori NARUMI (Yakult Central Institute)  
Takafumi KIMOTO (TEIJIN PHARMA LIMITED) |
| 11:50 - 12:50 | Poster Session  
Core time for P-39 - 55, P-80, P-56 - 79 |
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<tr>
<th>Time</th>
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<th>Presenters</th>
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<tbody>
<tr>
<td>13:45</td>
<td>Symposium 4</td>
<td>Joint Symposium with Safety Evaluation Forum</td>
<td>“Significance of genotoxic evaluation in pharmaceutical development -Requests from toxicologists-”</td>
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<td>Chairpersons: Takeshi MORITA (National Institute of Health Sciences)</td>
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<td>Yuji KAWAMURA (Meiji Seika Pharma Co., Ltd.)</td>
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<td></td>
<td>S4-1</td>
<td>13:45</td>
<td>Toxicologist and genotoxicologist</td>
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<td>National Institute of Health Sciences</td>
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<td>S4-2</td>
<td>14:10</td>
<td>Genotoxicity interpreted by pathological viewpoints</td>
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<td>Division of Pathology, Biological Safety Research Center, National Institute of Health Sciences</td>
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<td>S4-3</td>
<td>14:35</td>
<td>Micronucleus: Implication of carcinogenesis and perspectives in genotoxicity testing</td>
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<td>1 National Institute of Health Sciences, 2 LSI Medience Co.</td>
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<td>S4-4</td>
<td>15:00</td>
<td>Impact of genotoxicity testing results on pharmaceutical development</td>
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<td>Mitsubishi Tanabe Pharma Co.</td>
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<td>S4-5</td>
<td>15:35</td>
<td>Panel Discussion</td>
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<td>(Mochida Pharmaceutical Co., Ltd.)</td>
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<td>Facilitator: Makoto MIYAUCHI (Mochida Pharmaceutical Co., Ltd.)</td>
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<td>Makoto MIYAUCHI, Yuji KAWAMURA, Akira KODA, Asuka TAKUMI, Yutaka YONEZAWA, Kazuma KONDO, Yoshihiro NISHIYAMA, Yuko ARIE, Masafumi DOI</td>
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<td>1 Mochida Pharmaceutical Co., Ltd., Safety Evaluation Forum,</td>
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<td>2 Meiji Seika Pharma Co., Ltd., Safety Evaluation Forum,</td>
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<td>6 Japan Tobacco Inc., Safety Evaluation Forum, 7 Kowa Company. Ltd., Safety Evaluation Forum,</td>
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<td>8 Wakamoto Pharmaceutical Co., Ltd., Safety Evaluation Forum,</td>
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<td>9 Daiichi Sankyo RD Novare co., Ltd., Safety Evaluation Forum</td>
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<td>16:35</td>
<td>The Best Presentation Awards Ceremony &amp; Closing Remarks</td>
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</table>
Isolation/Identification, Antimutagen

P-1 Identification of the direct-acting mutagen of selective urinary bladder carcinogenic N-butyl-N-(carboxypropyl)nitrosamine in the presence of the chemical oxidation system
Mai WATANABE, Keiko INAMI, Masataka MOCHIZUKI
Faculty of Pharmaceutical Sciences, Tokyo University of Science

P-2 Structural identification of mutagen derived from N-nitrosomorpholine and reactive oxygen species
Naoki MAEDA, Keiko INAMI, Masataka MOCHIZUKI
Faculty of Pharmaceutical Sciences, Tokyo University of Science

P-3 Antimutagenic activity of terpenoid constituents in the peels of Citrus limon and the aerial parts of Isodon japonicus
Takahiro MATSUMOTO, Seikou NAKAMURA, Naoto KOJIMA, Tomohiro HASEI, Masayuki YAMASHITA, Hisashi MASTUDA, Tetsushi WATANABE
Kyoto Pharmaceutical University

P-4 Comparison of the antimutagenicity between berries, and variation in producing trees and years
Sakae ARIMOTO¹, Xiaomeng ZHANG², Yusuke TANIMOTO³, Ryoko HIDA¹, Ryosuke MOCHIOKA²
¹Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University,
²Faculty of Agriculture, Kagawa University

P-5 Ryukyu-ai, Strobilanthes cusia, extract inhibits the proliferation of human colon cancer cells
Riho OKUBO¹, Minori SAWAYA¹, Hiroshi TANAKA², Ayumi YAMAMOTO¹
¹National Institute of Technology, Hachinohe College, Advanced course of Material and Biological Engineering course,
²National Institute of Technology, Okinawa College, Department of Bioresources Engineering

Genotoxic Mechanism

P-6 Generation of phosphorylated histone H2AX by five aromatic amines in human bladder cell line
Tatsushi TOYOOKA¹, Yonggang Qi¹², Yukie YANAGIBA¹, Yuko IBUKI¹, Hisayoshi OHTA², Rui-sheng WANG³
¹National Institute of Occupational Safety and Health, ²Kitasato University Graduate School of Medical Sciences,
³University of Shizuoka

P-7 Evaluation of genotoxic damage in individuals who use chronic alcohol
COA MELO¹, D.M e SILVA¹², TCV GIGONZAC¹²³, AD da CRUZ¹²³
¹Department of Biology, Pontifical Catholic University of Goias, Replicon Research Group,
²Human Cytogenetics and Molecular Genetics Laboratory, Secretary of Goias State for Public Health,
³Pontifical Catholic University of Goias, Genetics Master’s Program, ³Federal University of Goias,
⁴State University of Goias, UnU Eseffejo

P-8 Multistage carcinogenesis and mutation by smoking - data from cancer tissues -
Masahiko WATANABE, Misato YOSHIIKAWA, Hiroaki ASO, Katsuya SUEMARU
School of Pharmacy, Shujitsu University
P-9 Evaluation of in vivo genotoxicity of clofibrate using gene mutation assay in the liver of Tg rat: report of a collaborative study
Ayaka MOMONAMI¹, Eri TSUTSUMI¹, Misato MAEDA¹, Yasuhiro TANAKA¹, Masami YAMADA², Hisako HORT, Yoshinori KITAGAWA³
¹Suntory MONOZUKURI Expert Limited, ²National Institute of Health Sciences (currently National Defense Academy), ³Suntory Wellness Limited

P-10 The unique mutation signature of non-carcinogenic mutagen azidoglycerol and its inhibition by Y-family DNA polymerases in Salmonella
Petr GRUZ¹, Masatomi SHIMIZU¹,², Kei-ichi SUGIYAMA¹, Hiroko FURUSAWA¹, Masamitsu HONMA¹
¹National Institute of Health Sciences, ²Tokyo Healthcare University

P-11 Polybrominated Diphenyl Ethers (PBDEs) Induce Germ Cell Apoptosis by Induction of ROS and DNA Damage in Caenorhabditis Elegans
Yang LUAN, XinYue YOU
School of Public Health, Shanghai Jiao Tong University

P-12 The toxic effects of combined exposure to chemical and bacterial toxin
Takuya YUI, Yuko SHIMAMURA, Norio OHASHI, Shuichi MASUDA
Graduate School of Integrated Pharmaceutical and Nutritional Sciences, University of Shizuoka

P-13 Involvement of Oxidative Stress and Nrf2 Signaling Pathway in Usnic Acid-Induced Toxicity in Human Hepatic Cells
Lei GUO, Si CHEN, Zhen REN, Letha COUCH, William H TOLLESON, Baitang NING, Nan MEI
National Center for Toxicological Research, U.S. FDA

P-14 Analysis of chromothripsis in γH2AX-stained micronuclei induced in vitro and in vivo
Shigeki MOTOYAMA, Kaori MATSUZAKI, Junko TAKETO, Kenji TANAKA, Akira TAKEIRI, Masayuki MISHIMA
Chugai Pharmaceutical Co., Ltd, Research Division

P-15 A CDK4/6 inhibition induces early enucleation of erythroblasts with cell cycle arrest, resulting in increase of spontaneous micronuclear frequency in reticulocytes
Yuki OKADA, Takafumi KIMOTO, Satsuki CHIKURA, Kumiko OKADA, Rie MORISHIMA, Hideshi KANEKO, Daishiro MIURA
Toxicology Research Department, Teijin Institute for Bio-medical Research, Teijin Pharma Limited

P-16 Development of the genotoxicity test system to distinguish between Transcription-Coupled Repair and Global Genome Repair using TK6 and its mutant cells responsible for genes of DNA repair
Maki NAKAMURA¹, Akiko UKAI², Akira SASSA³, Michihito TAKABE¹, Takayuki FUKUDA¹, Takeji TAKABE-ENYA¹, Masamitsu HONMA², Manabu YASUI²

DNA Damage/Repair

P-17 Site-specific DNA damage induced by purpurin, anthraquinone natural pigment
Yurie MORI¹, Shinya KATO², Mariko MURATA¹, Shosuke KAWANISHI¹, Shinji OIKAWA¹
¹Department of Environmental and Molecular Medicine, Mie University, ²Radioisotope Facilities for Medical Science, Advanced Science Research Promotion Center, Mie University, ³Suzuka University of Medical Science

P-18 The finding of a new oxidation product of guanine and base incorporation by some DNA polymerases
Katsuhito KINO¹, Akane SAKAGA¹, Ryuto ANABUKI¹, Rina TSUBOT¹, Kyosuke TOKORODANI¹, Miki KAWAKAMI¹, Takenobu KOBAYASHI¹, Takenori OYOSHI², Hiroshi MIYAZAWA¹
¹Kagawa School of Pharmaceutical Sciences, Tokushima Bunri University, ²Faculty of Science, Shizuoka University
Possible action of DNA polymerase ζ on hepatocarcinogen, estragole-induced DNA modification
Yuji ISHII¹, Shinji TAKASU¹, Aki KIJIIMA¹, Takehiko NOHMI¹,², Kumiko OGAWA¹,³
Takashi UMEMURA¹,²
¹Division of Pathology, National Institute of Health Sciences,
²Division of Genetics and Mutagenesis, National Institute of Health Sciences,
³Faculty of Animal Science Technology, Yamazaki University

A novel insight into the mechanism of fatty aldehyde metabolism with Fanconi anemia proteins
Wataru SAKAI¹,²,³, Motonari GOTO¹,², Yuki OTSUKI¹,², Shun MATSUDA³, Tomonari MATSUDA⁴, Kaoru SUGASAWA¹,²,³
¹Biosignal Research Center, Kobe University, ²Graduate School of Science, Kobe University,
³Faculty of Science, Kobe University, ⁴Research Center for Environmental Quality Management, Kyoto University

Analysis of the function of histone methyltransferase NSD2 using DNA damaging agents
Kaho HARADA, Megumi SUZUKI, Akira SASSA, Kiyoe URA
Department of Biology, Faculty of Science, Chiba University

Involvement of TDP1 and FANC pathway in DNA-protein crosslinks repair in vertebrate cells
Haruna FUJIKE¹, Mahmoud SHOULKAMY², Amir SALEM³, Hiroyuki SASANUMA³, Minoru TAKATA⁴, Shunichi TAKEDA⁴, Shin-ichiro MASUNAGA⁴, Hiroshi IDE⁴, Keizo TANO¹
¹Division of Radiation Life Science, Research Reactor Institute, Kyoto University,
²Department of Mathematical and Life science, Graduate School of Science, Hiroshima University,
³Department of Radiation Genetics, Graduate School of Medicine, Kyoto University,
⁴Department of Late Effects Studies, Radiation Biology Center, Kyoto University

Role of DNA repair machineries in suppressing the ribonucleotide-induced mutagenesis
Akira SASSA¹, Manabu YASUI², Hiroyuki SASANUMA³, Shunichi TAKEDA¹, Kaoru SUGASAWA⁴, Masamitsu HONMA², Kiyoe URA¹
¹The Department of Biology, Graduate School of Science, Chiba University,
²The Division of Genetics and Mutagenesis, National Institute of Health Sciences,
³Department of Radiation Genetics, Graduate School of Medicine, Kyoto University,
⁴Biosignal Research Center, Kobe University

WRN suppresses the mutation induced by O⁶-methylguanine
Tetsuya SUZUKI¹,², Yoshie KURAMOTO³, Hiroyuki KAMIYA¹,²
¹Graduate School of Biomedical & Health Sciences, Hiroshima University,
²School of Pharmaceutical Sciences, Hiroshima University

Cigarette sidestream smoke delays repair of UV-induced DNA damage and its relationship with reactive oxygen species
Guang YANG, Yuko IBUKI
Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka

Analysis of mutation spectrum induced by UVC and tumors of alimentary canal in rev3l mutants of Medaka fish
Yoshihiro FUJIKAWA¹, Tomoko FUJIWARA¹, Ayuko SATO², Tetsushi SAKUMA³, Takashi YAMAMOTO¹, Tohru TSUJIMURA², Takeshi TODÔ¹
¹Graduate School of Medicine, Osaka University, ²Department of Pathology, Hyogo College of Medicine,
³Graduate school of science, Hiroshima University

An assay to detect DNA-damaging agents using T7 endonuclease I
Shouta UEDA, Noriko SUEMATSU, Mika YUKUTAKE, Narumi SHIOI(OAKI), Isao KURAOKA
Department of Chemistry, Faculty of Science, Fukuoka University

Detection assay of DNA lesions that will be repaired by nucleotide excision repair system
Isao KURAOKA¹, Reine TAKATSUKA², Shigenori IWAI²
¹Fukuoka University, ²Osaka University

A comprehensive research on the biological effects of sustained DNA damage
Hidehiko KAWAI¹,², Megumi SASATANI¹, Elena ZAHARIEVA¹, Hiroyuki KAMIYA¹, Kenji KAMIYA²
¹Graduate School of Biomedical & Health Sciences, Hiroshima University,
²Research Institute for Radiation Biology and Medicine, Hiroshima University
Epigenetics

P-30  Inactivation of DNA repair gene in mouse in vitro multi-step carcinogenesis
Ryo BANBA, Takashi YAGI, Masanobu KAWANISHI
Department of Biology, Graduate School of Science, Osaka Prefecture University

P-31  Analysis of DNA demethylation activity of heavy metal with a novel detection system using HeLa MR cells
Suzuho IKEGAMI, Miyuki TANIGUCHI, Masanobu KAWANISHI, Takashi YAGI
Department of Biology, Graduate School of Science, Osaka Prefecture University

P-32  Identification of the differential DNA methylation patterns in the infant umbilical cord blood exposed to maternal smoking during pregnancy
Kunio MIYAKE1, Ryu MIURA2, Sachiko KOBAYASHI2, Sumitaka KOBAYASHI2, Chiiro MIYASHITA2, Atsuko ARAKI2, Zentaro YAMAGATA2, Reiko KISHI2
1Department of Health Sciences, University of Yamanashi, 2Hokkaido University Center for Environmental and Health Sciences

Influence of Radiation Exposure

P-33  Mechanism of cancer development induced by radiation using ApemMin/+ mice
Megumi SASATANI1, Daisuke IIZUKA2, Hidehiko KAWAI1, Zaharieva ELENA1, Kenji KAMIYA1
1Department of Experimental Oncology, Research institute for Radiation biology and medicine, Hiroshima university, 2Department of Radiation Effects Research, National Institute of Radiological Sciences, National Institutes for Quantum and Radiological Science and Technology,
3Department of Genetics and Cell Biology, Research institute for Radiation biology and medicine, Hiroshima university

P-34  Biological effects of chronic internal exposure to low-dose 137Cs : Analysis of germ cell mutations in wild type (A/J) mice
Hiroo NAKAJIMA1, Mizuki OHNO2, Hiroshi ISHIHARA1, Teruhisa TSUZUKI4, Takeshi TODO1

P-35  Biological effects of chronic internal exposure to low-dose 137Cs : Analysis of somatic mutations using Msh2-deficient mice
Mizuki OHNO1, Noriko TAKANO1, Yoshimichi NAKATSU1, Hiroshi ISHIHARA1, Hiroo NAKAJIMA1, Teruhisa TSUZUKI4
1Dept. of Medical Biophysics and Radiation Biology, Faculty of Med. Sci., Kyushu Univ., 3Internal Decporation Res. Team, Dept. of Basic Med. Sci. for Rad. Damag., Natl. Inst. Radiological Sciences, Natl. Inst. Quantum and Radiological Science and Technology, 3Dept. of Radiation biology and Medical Genetics, Graduate school of Medicine, Osaka Univ., 4Advanced Science Research Center, Fukuoka Dental College

P-36  Germline mutations of copy number variants can be found in the offspring of a population exposed occupationally to ionizing radiation of cesium-137
A. D. da CRUZ2,3,4,7,8, J. F. SILVA1, I. P. PINTO1,3, M. W. Gonçalves1, E. O. A. COSTA1,2,8, C. C. da SILVA1,2,3,4, R. W. PEREIRA8
1Pontifical Catholic University of Goiás, Department of Agricultural and Biological Sciences, Genetics Replicon Research Group, Goiânia-GO, Brazil., 2Pontifical Catholic University of Goiás, Genetics Master’s Program., 3Federal University of Goiás, Biotechnology and Biodiversity PhD Program, Rede Centro Oeste de Pós-Graduação, Pesquisa e Inovação., 4Human Cytogenetics and Molecular Genetics Laboratory, Health Secretary of Goiás State, Goiânia-GO, Brazil., 5State University of Goiás, UnU Goiania, Goiânia-GO, Brazil., 6Catholic University of Brasilia, Genomic Sciences and Biotechnology Graduate Program, Brasilia-DF, Brazil., 7Productivity Fellowship/Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), 8Post doctoral Fellowship/Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)
P-37 ANALYSIS OF LCRs FLANKING CNVs INDUCED BY IONIZING RADIATION AT LOW-DOSE IN INDIVIDUALS ACCIDENTALLY EXPOSED TO 137Cs
C. C. da SILVA1,2,3,4,5, I.P. PINTO1,2, J.F. SILVA1, M.W. Gonçalves1, E.O.A. COSTA1,2,
R.W. PEREIRA6, A.D. da CRUZ1,2,3,4,7,8
1Pontifical Catholic University of Goiás, Department of Agricultural and Biological Sciences, Genetics Replicon Research Group, Goiânia-GO, Brazil.,
2Pontifical Catholic University of Goiás, Genetics Master’s Program.,
3Federal University of Goias, Biotechnology and Biodiversity PhD Program, Rede Centro Oeste de Pós-Graduação, Pesquisa e Inovação.,
4Human Cytogenetics and Molecular Genetics Laboratory, Health Secretary of Goiás State, Goiânia-GO, Brazil.,
5State University of Goiás, UnU Goiania, Goiânia-GO, Brazil.,
6Catholic University of Brasilia, Genome Sciences and Biotechnology Graduate Program, Brasilia-DF, Brazil.,
7Productivity Fellowship, Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).,
8Post doctoral Fellowship, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

Detection/Evaluation: In Vitro Microorganism

P-38 ACIDENTAL EXPOSURE TO LOW DOSES OF IONIZING RADIATION INCREASE THE RATE OF NEW CNVS IN THE EXPOSED OFFSPRING
EOA COSTA1,2,8, IP Pinto1,3, LG OLIVEIRA1,2, MW GONÇALVES1, AS da CRUZ1,2, CC da SILVA1,2,3,4,5,
R.W. PEREIRA6, AD da CRUZ1,2,3,4,7,8
1Pontifical Catholic University of Goiás, Department of Agricultural and Biological Sciences, Genetics Replicon Research Group, Goiânia-GO, Brazil.,
2Pontifical Catholic University of Goiás, Genetics Master’s Program.,
3Federal University of Goias, Biotechnology and Biodiversity PhD Program, Rede Centro Oeste de Pós-Graduação, Pesquisa e Inovação.,
4Human Cytogenetics and Molecular Genetics Laboratory, Health Secretary of Goiás State, Goiânia-GO, Brazil.,
5State University of Goiás, UnU Goiania, Goiânia-GO, Brazil.,
6Catholic University of Brasilia, Genomic Sciences and Biotechnology Graduate Program, Brasilia-DF, Brazil.,
7Productivity Fellowship, Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).,
8Post doctoral Fellowship, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

Detection/Evaluation: In Silico

P-39 Application of In silico chemistry to mutagenicity evaluation of nitroarenes: Reduction property and stereochemistry of nitro groups
Akiko OHNO1, Takashi YAMADA1, Takehiko NOHMI2, Kiyoshi FUKUHARA3, Akihiko HIROSE1
1Division of Risk Assessment, National Institute of Health Sciences,
2Division of Genetics and Mutagenesis, National Institute of Health Sciences,
3School of Pharmacy, Showa University.

P-40 In silico prediction of induction of chromosomal aberration
Takeshi MORITA1, Yoshiyuki SHIGETA1, Tomoko KAWAMURA1, Yurika FUJITA2, Hiroshi HONDA2,
Masamitsu HONMA3
1Division of Risk Assessment, National Institute of Health Sciences,
2R & D Safety Science Research, Kao Corporation,
3Division of Genetics and Mutagenesis, National Institute of Health Sciences.

P-41 Machine learning approaches to find factors responsible for drug sensitivity of cell lines
Kengo IKEBATA, Tomonari MATSUDA
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Detection/Evaluation: In Vitro Microorganism

P-42 The comparison of the result of Ames test between individual addition and mix addition of amino acid
Takashi AOKI, Tooru FUJIMOTO, Shigenori MINOWA, Yuko SHIMIZU, Katsuaki YASUNAGA,
Hironao TAKASAWA, Munehiro NAKAGAWA, Shuichi HAMADA
LSI Medience Corporation

P-43 The study of the modified Ames assay for amino acid containing material (treat & wash assay) V
Kumiko KAWAKAMI, Misato SOEDA, Takeharu TAKIZAWA, Hajime SUI
Hatano Research Institute, Food and Drug Safety Center
P-44 Evaluation of acetone as a vehicle in the Ames test (preincubation method)-2
Tomomi SHIBATA¹, Takeshi YAMAGATA¹, Akihiro KAWADE¹, Shoji ASAKURA², Naoki TORITSUKA², Naoki KOYAMA², Atsushi HAKURA²
¹Preclinical Safety Research Unit, Tsukuba R&D Supporting Division, Sunplanet Co. Ltd, ²Tsukuba Drug Safety, Eisai Co. Ltd

P-45 Further improvement of high through-put fluctuation Ames test (Part XII)
Hajime SUI, Kumiko KAWAKAMI, Misato SOEDA, Takeharu TAKIZAWA
Food and Drug Safety Center, Hatano Research Institute

P-46 Evaluation on Ames test with CDA-1000(2)
Yasunori ODA¹, Shinji HASEGAWA², Takahiro MATSUO²
¹R&I Business Development, Sysmex Corporation, ²R&I Sales, Sysmex Corporation

P-47 Analysis of the mutation spectrum of the extreme thermophile Thermus thermophilus HB27 AudgA,B strain using a supF-based mutation detection system
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¹Department of Applied Chemistry, National Defense Academy

P-48 Evaluation of genotoxic effects of surface waters using a battery of bioassays indicating different mode of action
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P-49 Construction of yeast reporter assay system to detect environmental heavy metals
Mototsu NISHIMURA, Yui YAGI, Sayoko ITO-HARASHIMA, Masanobu KAWANISHI, Takashi YAGI
Department of Biological Science, Graduate school of Science, Osaka Prefecture University

Detection/Evaluation: In Vitro Cell/Tissue

P-50 Genotoxic evaluation of medium extract of field-sampled microplastics by the in vitro CHL/IU cell micronucleus test
Shunji FURUKUMA, Nobuyoshi FUJI
UBE Scientific Analysis Laboratory, Inc.

P-51 Effect of recovery time in the chromosomal aberration test using cultured mammalian cells (part 7)
Hiroshi SEKI, Toshio SOFUNI, Yasushi NARABE
Safety Studies Section, Special Chemistry Division, BML, INC.

P-52 Evaluation of the detection ability of an in vitro micronucleus assay with TK6 cells for aneugens
Ayako TANAKA, Shizuka OKAZAKI, Naoko KAJI, Nana ISHII, Akihiko KAJIWARA, Katsuaki YASUNAGA, Hironao TAKASAWA, Muneharu NAKAGAWA, Shuichi HAMADA
LSI Medience Corporation

P-53 Determination and application of ECC₃₅ to evaluate the cytotoxicity of microtubule-binding drugs by live cell imaging of mouse mSS cells
Ai KAWAKITA¹, Kaori MURATA¹, Kenji SUGIMOTO¹
¹Graduate School of Life and Environmental Sciences, Osaka Prefecture University, ²Live Cell Imaging Institute

P-54 The in vitro micronucleus assay of a multiwall carbon nanotube MWNT-7
Toshiki SASAKI, Tomoyuki KAMIGAITO, Masumi ASAKURA, Jun KANNO, Shoji FUKUSHIMA
Japan Bioassay Research Center, Japan Organization of Occupational Health and Safety
P-55 Mutagenicity in TK6 cells: Levofloxacin and Oxazepam
Takumi AWOGI, Keisuke SAKATA, Sayaka TSUZUKI
Otsuka Pharmaceutical Co, Ltd. Tokushima Research Institute

P-80 Development and Application of an in vitro Multi-biomarker Genotoxicity Assay
Yan CHANG, Pengcheng HUANG, Changhui ZHOU
National Shanghai Center for New Drug Safety Evaluation and Research/Shanghai Innostar Bio-tech Co. Ltd, Shanghai, P.R.C.

P-56 Development of highly sensitive genotoxicity test method using TK6 and its DNA repair mutants
Takayuki FUKUDA1, Maki NAKAMURA1, Ryosuke SATO1, Sho FUJIWARA1, Akira SASSA3, Akiko UKAI1, Shunichi TAKEDA1, Manabu YASUI3, Masamitsu HONMA3
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P-57 GPMA (genome profiling-based mutation assay) using a mammalian cell
Baba MISATO1, Parmila KUMARI2, Sunita Ghimire GAUTAM2, Motoki TSUKIASHI1, Koji MATSUOKA2, Koichi NISHIGAKI1
1Graduate School of Agriculture, Kyoto University, 2Graduate School of Science and Engineering, Saitama University, 3Japan Advanced Institute of Science and Technology

P-58 Establishment of a test system for detecting genotoxicants with increasing intracellular levels of reactive oxygen species
Tatsuya KATO, Eiji YAMAMURA, Katsuya YAMADA, Shigeharu MUTO, Nobuyuki BABA, Yoshifumi UNO
Mitsubishi Tanabe Pharma Corporation

P-59 Availability of optical density for judgement of transformed foci in Bhas 42 cell transformation assay
Kohji YAMAKAGE, Kiyoshi SASAKI, Makoto UMEDA
Hatano Research Institute, Food and Drug Safety Center

P-60 The evaluation reports for Syrian hamster embryo cell transformation Assay (SHE CTA)
Norihide ASANO1, Toshio KASAMATSU2, Sachiko KITAMOTO1, Takeki TSUTSUI3, Kohji YAMAKAGE1, Mika YAMAMOTO1, Hajime KOJIIMA1
1Division of Genetics and Mutagenesis, National Institute of Health Sciences, 2Department of Pharmaceutical and Environmental Sciences, Tokyo Metropolitan Institute of Public Health, 3Department of Nutrition Science and Food Safety, Faculty of Applied Bioscience, Tokyo University of Agriculture

P-61 Establishment of novel genotoxicity assay system using organoids derived from murine normal epithelial tissues
Haruna SATO1, Masako OCHIAI1, Toshihisa IMAI1, Yukari TOTSUKA1
1Division of Carcinogenesis and Prevention, National Cancer Center Research Institute, 2Department of Animal Experimentation, National Cancer Center Research Institute

P-62 Construction of in vivo mimicking evaluation systems for nanomaterials
Shoma KAMIO1,2, Shungo SAITO1,3, Masatoshi WATANABE2, Kazuhiko SHIZUKA1, Yukari TOTSUKA1
1Division of Carcinogenesis and Cancer Prevention, National Cancer Research Institute, 2Toyo University, 3YOKOHAMA National University, 4Mie University

Detection/Evaluation: In Vivo

P-63 Absence of in vivo mutagenicity of multi-walled carbon nanotubes in single intratracheal instillation study using F344 gpt delta rats
Katsuayoshi HORIBATA1, Akiko UKAI1, Akio OGATA1, Dai NAKAE1, Hiroshi ANDO2, Yoshikazu KUBO2, Akemi NAGASAWA1, Katsuhiko YUZAWA1, Masamitsu HONMA1
1Division of Genetics and Mutagenesis, National Institute of Health Sciences, 2Department of Pharmaceutical and Environmental Sciences, Tokyo Metropolitan Institute of Public Health, 3Department of Nutritional Science and Food Safety, Faculty of Applied Bioscience, Tokyo University of Agriculture
P-64 In vivo genotoxicity assessment of carbon nanotubes using in vivo-in vitro mouse lung micronucleus test
Hironao TAKASAWA1, Miyuki SHIGANO1, Yuhji TAQUAHASHI1, Ayako TANAKA1, Kiyoko NAKADATE1, Katushi HORIBATA2, Katsuaki YASUNAGA1, Munehiro NAKAGAWA1, Shuichi HAMADA1, Masamitsu HONMA2
1LSI Medience Corporation, 2National Institute of Health Sciences

P-65 Detection of genotoxic active metabolite-induced Pig-a mutation by the PIGRET assay
Shiho NAKAYAMA, Satoru ITOH, Tomoko HASEGAWA, Kazuhiko MORI
Medicinal Safety Research Laboratories, Daiichi Sankyo Co., Ltd.

P-66 No effects on the ratio of immature erythrocytes in the bone marrow by fasting rats when in vivo micronucleus assay is conducted with a standard experimental design
Tooru FUJIMOTO, Hironao TAKASAWA, Miyuki SHIGANO, Atsuko MIKI, Kiyoko NAKADATE, Munehiro NAKAGAWA, Shuichi HAMADA
LSI Medience Corporation

P-67 Evaluation of liver micronucleus assay using formalin-fixed method
Miyuki SHIGANO1, Satoru KAWAKAM1, Fuyumi UNO1, Hajime SUI1, Katsuya YAMADA3, Soichiro HAGIO2, Ayaka MOMONAMI1, Akio MAEDA3, Yukari TERASHIMA1, Shuichi HAMADA1
1LSI Medience Corporation, 2Asahi Kasei Pharma, 3Biosafety Research Center, 4Food and Drug Safety Center, 5Mitsubishi Tanabe Pharma, 6Nissan Chemical Industries, 7Suntory MONOZUKURI Expert, 8Toray Industries, 9Kissei Pharmaceutical

P-68 Flow Cytometric Rat Liver Micronucleus Assay Provides High Content Assessment of Chromosomal Damage and Hepatocyte Proliferation
Jeffrey C. BEMIS, Svetlana L. AVLASEVICH, Sumee KHANAL, Priyanka SINGH, Dorothea K. TOROUS, Stephen D. DERTINGER
Litron Laboratories, Rochester, New York

P-69 Combined Evaluation of Micronucleus Assay and Gene Mutation Assay Using Multi-Organs
Hisakazu SANADA, Tohru KIHARA
Pharmacokinetics and Safety Department, Kaken Pharmaceutical Co., LTD.

P-70 Evaluation of a multi-endpoint assay in rats, combining the gastrointestinal tract micronucleus tests and Comet assay
Kazunori NARUMI, Yohei FUJISHI, Emiko OKADA, Wakako OHYAMA
Yakult Central Institute

P-71 Agricultural impact in tadpoles of Physalaemus cuvieri Fitzinger, 1826 (Amphibia-Anura) by comet assay
Daniela de Melo e SILVA1,2, Macks Wendhel GONÇALVES1,2, Aparecido Divino da CRUZ3,2, Rogério Pereira BASTOS4, Paulo de MARCO-JR4
1Genetics and Mutagenesis Laboratory, Federal University of Goiás. Goiânia, GO, Brazil., 2Replicon Research Nucleus, Agrary and Biological School, Goias Pontifical Catholic University. Goiânia, GO, Brazil., 3Human Cytogenetics and Molecular Genetics Laboratory, State Health Secretary. Goiânia, GO, Brazil., 4Animal Behaviour Laboratory and The MetaLand Lab. Federal University of Goias. Goiânia, GO, Brazil.

Detection/Evaluation: New Technology

P-72 Development of simplified alternative to short-term carcinogenicity prediction method, CARCINOscreen®, based on quantitative PCR
Mayumi SAKUNAGA, Fumiyo SAITO, Yumi AKAHORI, Makoto NAKAI, Masahiro TAKEYOSHI
Chemicals Evaluation and Research Institute,Japan

P-73 Validation Study of Marker Genes Discriminating Genotoxic Hepatocarcinogens vs. Non-genotoxic Hepatocarcinogens Determined by Next-Generation Sequencing: Targeted mRNA Sequencing
Chie FURIHATA1, Takayoshi SUZUKI1, Takeshi TOYODA2, Kumiko OGAWA2
1Div Mol Target Gene Therapy Products, National Institute of Health Sciences, 2Div. Pathology, National Institute of Health Sciences
A novel method using a next-generation sequencer, enabling direct quantification of point mutations (part 2)
Shoji MATSUMURA, Hiroshi HONDA, Yurika FUJITA, Masayuki YAMANE, Osamu MORITA
R&D - Core Technology - Safety Science Research, Kao Corporation

Analyses of Mutational Signatures Induced by Chemicals using Model Organisms
Nozomi AKIBA1,3, Haruna SATO1, Tomonari MATSUDA2, Osamu ENDOU3, Kazuho INABA3, Yukari TOTSUKA1
1National Cancer Research Center, 2Kyoto University, 3Azabu University

Exploration of cancer etiology using whole exome analysis and comprehensive DNA adduct analysis
Yuya MAESAKO1,4, Akane ZENKE1, Asmaa ELZAWAHRY2, Eisaku FURUKAWA2, Mamoru KATO2, Kouya SHIRAISHI1, Takashi KOHNO2, Kazuhiro SHIZAKI1, Yukari TOTSUKA1

Prediction of carcinogenicity from transgenic mouse assay data
Yasunobu AOKI
Center for Health and Environmental Risk Research, National Institute for Environmental Studies

Revised CFDA Guidance on Genotoxicity Testing and Data Interpretation for Pharmaceuticals Intended for Human Use
Liwen GAO, Xueping XU, Chunhua XU, Yunlan GUO, Biao XU, Millie CHEN
WuXi AppTec (Suzhou) Co., Ltd., Suzhou, China.

Collaborative study of thresholds for mutagens: preliminary results
Shizuyo SUTOU1, Toshiyuki KUDO1, Toshiyuki SHIRAGIKU2, Akiko KOEDA3, Kana KOMATSU3, Hiroshi SEKI4, Kohji YAMAKAGE4, Takeshi NIITSUMA1, Akihiro WAKATA5
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P-80 is presenting between P-55 and P-56.