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 MASUDA[1,2], Rie KANAO[1], Chikahide MASUTANI[1]
[1]Department of Genome Dynamics, Research Institute of Environmental Medicine, Nagoya University,
[2]Department 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 YAGI[1], Yoshihiro FUJIKAWA[1,2], Kodai FUKUMOTO[1], Akane TAKENOKUCHI[1], Takeji TAKAMURA-ENYA[3], Masanobu KAWANISHI[1]
[1]Graduate School of Science, Osaka Prefecture University,
[2]Present: Graduate School of Medicine, Osaka University,
[3]Faculty of Engineering, Kanagawa Institute of Technology

S1-4 10:31 **DNA-protein cross-links: Detection and biological effects**
Hiroshi IDE
Dept. Math. Life Sci., Grad. Sch. Sci., Hiroshima Univ.

S1-5 10:53 **The action mechanism and possible application of small molecules destabilizing DNA repair factors**
Tsukasa MATSUNAGA
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. DERTINGER[1], Steven M. BRYCE[1], Derek T. BERNACKI[1], Jeffrey C. BEMIS[1], Stephanie L. SMITH-ROE[2], Kristine L. WITT[2]
[1]Litron Laboratories,
[2]Division 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** Presentation 1min.

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)

8:50

Registration

9:00 - 10:45 〈Hitotsubashi Hall〉

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 Mecicine

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 〈Hitotsubashi Hall〉

Flash Talk **P-39 - 55, P-80, P-56 - 79** Presentation 1min.

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

11:50 - 12:50 〈Conference Room (2F)〉

Poster Session **Core time for P-39 - 55, P-80, P-56 - 79**

13:45 - 16:35 〈Hitotsubashi Hall〉

Symposium 4 Joint Symposium with Safety Evaluation Forum "Significance of genotoxic evaluation in pharmaceutical development -Requests from toxicologists-"

Chairpersons: Takeshi MORITA (National Institute of Health Sciences)
Yuji KAWAMURA (Meiji Seika Pharma Co., Ltd.)

S4-1 13:45 **Toxicologist and genotoxicologist**
Masamitsu HONMA
National Institute of Health Sciences

S4-2 14:10 **Genotoxicity interpreted by pathological viewpoints**
Kumiko OGAWA, Young-Man CHO, Yuji ISHII, Takeshi TOYODA
Division of Pathology, Biological Safety Research Center, National Institute of Health Sciences

S4-3 14:35 **Micronucleus: Implication of carcinogenesis and perspectives in genotoxicity testing**
Takeshi MORITA[1], Shuichi HAMADA[2]
[1]National Institute of Health Sciences, [2]LSI Medience Co.

S4-4 15:00 **Impact of genotoxicity testing results on pharmaceutical development**
Yoshifumi UNO
Mitsubishi Tanabe Pharma Co.

S4-5 15:35 **Panel Discussion**
Q&A for Genotoxic Evaluation from a Viewpoint of Pharmaceutical Development

Facilitator: Makoto MIYAUCHI (Mochida Pharmaceutical Co., Ltd.)

Makoto MIYAUCHI[1], Yuji KAWAMURA[2], Akira KODA[3], Asuka TAKUMI[4], Yutaka YONEZAWA[5], Kazuma KONDO[6], Yoshihiro NISHIYAMA[7], Yuko ARIE[8], Masafumi DOI[9]
[1]Mochida Pharmaceutical Co., Ltd., Safety Evaluation Forum,
[2]Meiji Seika Pharma Co., Ltd., Safety Evaluation Forum,
[3]Maruho Co., Ltd., Safety Evaluation Forum, [4]Ajinomoto Co., Inc., Safety Evaluation Forum,
[5]Kaken Pharmaceutical Co., Ltd., Safety Evaluation Forum,
[6]Japan Tobacco Inc., Safety Evaluation Forum, [7]Kowa Company. Ltd., Safety Evaluation Forum,
[8]Wakamoto Pharmaceutical Co., Ltd., Safety Evaluation Forum,
[9]Daiichi Sankyo RD Novare co., Ltd., Safety Evaluation Forum

16:35 - 16:50 〈Hitotsubashi Hall〉

The Best Presentation Awards Ceremony & Closing Remarks

Poster Session

Poster View Time: November 6 (Mon), 12:00 - November 7 (Tue), 13:00

Poster Presentation: November 6 (Mon), 17:50 - 18:50【Core time for P-1 ～ 38】
November 7 (Tue), 11:50 - 12:50【Core time for P-39 - 55, P-80, P-56 - 79】

Isoration/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 ARIMOTO[1], Xiaomeng ZHANG[1], Yusuke TANIMOTO[1], Ryoko HIDA[1], Ryosuke MOCHIOKA[2]
[1]Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University,
[2]Faculty of Agriculture, Kagawa University

P-5 **Ryukyu-ai, *Strobilanthes cusia*, extract inhibits the proliferation of human colon cancer cells**
Riho OKUBO[1], Minori SAWAYA[1], Hiroshi TANAKA[2], Ayumi YAMAMOTO[1]
[1]National Institute of Technology, Hachinohe College, Advanced course of Material and Biological Engineering course,
[2]National 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 TOYOOKA[1], Yonggang QI[1,2], Yukie YANAGIBA[1], Yuko IBUKI[3], Hisayoshi OHTA[2], Rui-sheng WANG[1]
[1]National Institute of Occupational Safety and Health, [2]Kitasato University Graduate School of Medical Sciences, [3]University of Shizuoka

P-7 **Evaluation of genotoxic damage in individuals who use chronic alcohol**
COA MELO[1], D.M e SILVA[3,4], TCV GIGONZAC[2,3,5], AD da CRUZ[1,2,3]
[1]Department of Biology, Pontifical Catholic University of Goias, Replicon Research Group,
[2]Human Cytogenetics and Molecular Genetics Laboratory, Secretary of Goias State for Public Health,
[3]Pontifical Catholic University of Goias, Genetics Master's Program, [4] Federal University of Goias,
[5]State University of Goias, UnU Eseffego

P-8 **Multistage carcinogenesis and mutation by smoking - data from cancer tissues -**
Masahiko WATANABE, Misato YOSHIKAWA, 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 MOMONAMI[1], Eri TSUTSUMI[1], Misato MAEDA[1], Yasuhiro TANAKA[1], Masami YAMADA[2], Hisako HORI[1], Yoshinori KITAGAWA[3]
[1]Suntory MONOZUKURI Expert Limited,
[2]National Institute of Health Sciences (currently National Defense Academy), [3]Suntory Wellness Limited

P-10 **The unique mutation signature of non-carcinogenic mutagen azidoglycerol and its inhibition by Y-family DNA polymerases in Salmonella**

Petr GRUZ[1], Masatomi SHIMIZU[1,2], Kei-ichi SUGIYAMA[1], Hiroko FURUSAWA[1], Masamitsu HONMA[1]
[1]National Institute of Health Sciences, [2]Tokyo 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 micronucleus 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 NAKAMURA[1], Akiko UKAI[2], Akira SASSA[3], Michihito TAKABE[1], Takayuki FUKUDA[1], Takeji TAKAMURA-ENYA[4], Masamitsu HONMA[2], Manabu YASUI[2]
[1]Tokyo Lab., Bozo Res. Center Inc., [2]Div. of Genetics and Mutag., NIHS., [3]Dept. of Biology, Chiba Univ., [4]Dept. Applied Chem., Kanagawa Inst. Tech.

DNA Damage/Repair

P-17 **Site-specific DNA damage induced by purpurin, anthraquinone natural pigment**

Yurie MORI[1], Shinya KATO[2], Mariko MURATA[1], Shosuke KAWANISHI[3], Shinji OIKAWA[1]
[1]Department of Environmental and Molecular Medicine, Mie University,
[2]Radioisotope Facilities for Medical Science, Advanced Science Research Promotion Center, Mie University ,
[3]Suzuka University of Medical Science

P-18 **The finding of a new oxidation product of guanine and base incorporation by some DNA polymerases**

Katsuhito KINO[1], Akane SAKAGA[1], Ryuto ANABUKI[1], Rina TSUBOI[1], Kyosuke TOKORODANI[1], Miki KAWAKAMI[1], Takanobu KOBAYASHI[1], Takanori OYOSHI[2], Hiroshi MIYAZAWA[1]
[1]Kagawa School of Pharmaceutical Sciences, Tokushima Bunri University, [2]Faculty of Science, Shizuoka University

P-19 **Possible action of DNA polymerase ζ on hepatocarcinogen, estragole-induced DNA modification**

Yuji ISHII[1], Shinji TAKASU[1], Aki KIJIMA[1], Takehiko NOHMI[1,2], Kumiko OGAWA[1], Takashi UMEMURA[1,3]
[1]Division of Pathology, National Institute of Health Sciences,
[2]Division of Genetics and Mutagenesis, National Institute of Health Sciences,
[3]Faculty of Animal Science Technology, Yamazaki University

P-20 **A novel insight into the mechanism of fatty aldehyde metabolism with Fanconi anemia proteins**

Wataru SAKAI[1,2,3], Motonari GOTO[1,2], Yukie OTSUKI[1,3], Shun MATSUDA[4], Tomonari MATSUDA[4], Kaoru SUGASAWA[1,2,3]
[1]Biosignal Research Center, Kobe University, [2]Graduate School of Science, Kobe University,
[3]Faculty of Science, Kobe University, [4]Research Center for Environmental Quality Management, Kyoto University

P-21 **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

P-22 **Involvement of TDP1 and FANC pathway in DNA-protein crosslinks repair in vertebrate cells**

Haruna FUJIIKE[1], Mahmoud SHOULKAMY[2], Amir SALEM[2], Hiroyuki SASANUMA[3], Minoru TAKATA[4], Shunichi TAKEDA[3], Shin-ichiro MASUNAGA[1], Hiroshi IDE[2], Keizo TANO[1]
[1]Division of Radiation Life Science, Research Reactor Institute, Kyoto University,
[2]Department of Mathematical and Life science, Graduate School of Science, Hiroshima University,
[3]Department of Radiation Genetics, Graduate School of Medicine, Kyoto University,
[4]Department of Late Effects Studies, Radiation Biology Center, Kyoto University

P-23 **Role of DNA repair machineries in suppressing the ribonucleotide-induced mutagenesis**

Akira SASSA[1], Manabu YASUI[2], Hiroyuki SASANUMA[3], Shunichi TAKEDA[3], Kaoru SUGASAWA[4], Masamitsu HONMA[2], Kiyoe URA[1]
[1]The Department of Biology, Graduate School of Science, Chiba University,
[2]The Division of Genetics and Mutagenesis, National Institute of Health Sciences,
[3]Department of Radiation Genetics, Graduate School of Medicine, Kyoto University,
[4]Biosignal Research Center, Kobe University

P-24 **WRN suppresses the mutation induced by O^6-methylguanine**

Tetsuya SUZUKI[1,2], Yoshie KURAMOTO[2], Hiroyuki KAMIYA[1,2]
[1]Graduate School of Biomedical & Health Sciences, Hiroshima University,
[2]School of Pharmaceutical Sciences, Hiroshima University

P-25 **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

P-26 **Analysis of mutation spectrum induced by UVC and tumors of alimentary canal in *rev3l* mutants of Medaka fish**

Yoshihiro FUJIKAWA[1], Tomoko FUJIWARA[1], Ayuko SATO[2], Tetsushi SAKUMA[3], Takashi YAMAMOTO[3], Tohru TSUJIMURA[2], Takeshi TODO[1]
[1]Graduate School of Medicine, Osaka University, [2]Department of Pathology, Hyogo College of Medicine,
[3]Graduate school of science, Hiroshima University

P-27 **An assay to detect DNA-damaging agents using T7 endonuclease I**

Shouta UEDA, Noriko SUEMATSU, Mika YUKUTAKE, Narumi SHIOI(AOKI), Isao KURAOKA
Department of Chemistry, Faculty of Science, Fukuoka University

P-28 **Detection assay of DNA lesions that will be repaired by nucleotide excision repair system**

Isao KURAOKA[1], Reine TAKATSUKA[2], Shigenori IWAI[2]
[1]Fukuoka University, [2]Osaka University

P-29 **A comprehensive research on the biological effects of sustained DNA damage**

Hidehiko KAWAI[1,2], Megumi SASATANI[2], Elena ZAHARIEVA[2], Hiroyuki KAMIYA[1], Kenji KAMIYA[2]
[1]Graduate School of Biomedical & Health Sciences, Hiroshima University,
[2]Research 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 MIYAKE[1], Ryu MIURA[2], Sachiko KOBAYASHI[2], Sumitaka KOBAYASHI[2], Chihiro MIYASHITA[2], Atsuko ARAKI[2], Zentaro YAMAGATA[1], Reiko KISHI[2]
[1]Department of Health Sciences, University of Yamanashi,
[2]Hokkaido University Center for Environmental and Health Sciences

Influence of Radiation Exposure

P-33 **Mechanism of cancer development induced by radiation using *Apc*$^{Min/+}$ mice**

Megumi SASATANI[1], Daisuke IIZUKA[2], Hidehiko KAWAI[1], Zaharieva ELENA[3], Kenji KAMIYA[1]
[1]Department of Experimental Oncology, Research institute for Radiation biology and medicine, Hiroshima university,
[2]Department of Radiation Effects Research, National Institute of Radiological Sciences, National Institutes for Quantum and Radiological Science and Technology,
[3]Department 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 ^{137}Cs : Analysis of germ cell mutations in wild type (A/J) mice**

Hiroo NAKAJIMA[1], Mizuki OHNO[2], Hiroshi ISHIHARA[3], Teruhisa TSUZUKI[4], Takeshi TODO[1]
[1]Dept. Radiat. Biol. and Med. Genet., Grad. Sch. Med. Osaka Univ.,
[2]Dept. of Medical Biophysics and Radiation Biology, Faculty of Med. Sci., Kyushu Univ.,
[3]Internal Decorporation Res. Team, Dept. of Basic Med. Sci. for Rad. Damag., Natl. Inst. Radiological Sciences, Natl. Inst. Quantum and Radiological Science and Technology,
[4]Advanced Science Research Center, Fukuoka Dental College

P-35 **Biological effects of chronic internal exposure to low-dose 137Cs : Analysis of somatic mutations using Msh2-deficient mice**

Mizuki OHNO[1], Noriko TAKANO[1], Yoshimichi NAKATSU[1], Hiroshi ISHIHARA[2], Hiroo NAKAJIMA[3], Teruhisa TSUZUKI[4]
[1]Dept. of Medical Biophysics and Radiation Biology, Faculty of Med. Sci., Kyushu Univ.,
[2]Internal Decorporation Res. Team, Dept. of Basic Med. Sci. for Rad. Damag., Natl. Inst. Radiological Sciences, Natl. Inst. Quantum and Radiological Science and Technology.,
[3]Dept. of Radiation biology and Medical Genetics, Graduate school of Medicine, Osaka Univ.,
[4]Advanced 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 CRUZ[1,2,3,4,7,8], J. F. SILVA[1], I. P. PINTO[1,3], M. W. Gonçalves[1], E. O. A. COSTA[1,2,8], C. C. da SILVA[1,2,3,4,5], R. W. PEREIRA[6]
[1]Pontifical Catholic University of Goiás, Department of Agricultural and Biological Sciences, Genetics Replicon Research Group, Goiânia-GO, Brazil.,
[2]Pontifical Catholic University of Goiás, Genetics Master's Program.,
[3]Federal University of Goiás, Biotechnology and Biodiversity PhD Program, Rede Centro Oeste de Pós-Graduação, Pesquisa e Inovação.,
[4]Human Cytogenetics and Molecular Genetics Laboratory, Health Secretary of Goiás State, Goiânia-GO, Brazil.,
[5]State University of Goiás, UnU Goiania, Goiânia-GO, Brazil.,
[6]Catholic University of Brasília, Genomic Sciences and Biotechnology Graduate Program, Brasília-DF, Brazil.,
[7]Productivity Fellowship/Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).,
[8]Post 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 ^{137}Cs**

C. C. da SILVA[1,2,3,4,5], I.P. PINTO[1,3], J. F. SILVA[1], M. W. Gonçalves[1], E. O. A. COSTA[1,2], R. W. PEREIRA[6], A. D. da CRUZ[1,2,3,4,7,8]
[1]Pontifical Catholic University of Goiás, Department of Agricultural and Biological Sciences, Genetics Replicon Research Group, Goiânia-GO, Brazil.,
[2]Pontifical Catholic University of Goiás, Genetics Master's Program.,
[3]Federal University of Goias, Biotechnology and Biodiversity PhD Program, Rede Centro Oeste de Pós-Graduação, Pesquisa e Inovação.,
[4]Human Cytogenetics and Molecular Genetics Laboratory, Health Secretary of Goiás State, Goiânia-GO, Brazil.,
[5]State University of Goiás, UnU Goiania, Goiânia-GO, Brazil.,
[6] Catholic University of Brasilia, Genomic Sciences and Biotechnology Graduate Program, Brasilia-DF, Brazil.,
[7]Productivity Fellowship, Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).,
[8]Post doctoral Fellowship, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)

P-38 **ACIDENTAL EXPOSURE TO LOW DOSES OF IONIZING RADIATION INCREASE THE RATE OF NEW CNVS IN THE EXPOSED OFFSPRING**

EOA COSTA[1,2,8], IP Pinto[1,3], LG OLIVEIRA[1,2], MW GONÇALVES[1], AS da CRUZ[1,2], CC da SILVA[1,2,3,4,5], R W PEREIRA[6], AD da CRUZ[1,2,3,4,7,8]
[1]Pontifical Catholic University of Goiás, Department of Agricultural and Biological Sciences, Genetics Replicon Research Group, Goiânia-GO, Brazil.,
[2]Pontifical Catholic University of Goiás, Genetics Master's Program.,
[3]Federal University of Goias, Biotechnology and Biodiversity PhD Program, Rede Centro Oeste de Pós-Graduação, Pesquisa e Inovação.,
[4]Human Cytogenetics and Molecular Genetics Laboratory, Health Secretary of Goiás State, Goiânia-GO, Brazil.,
[5]State University of Goiás, UnU Goiania, Goiânia-GO, Brazil.,
[6]Catholic University of Brasilia, Genomic Sciences and Biotechnology Graduate Program, Brasilia-DF, Brazil.,
[7]Productivity Fellowship, Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).,
[8]Post 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 OHNO[1], Takashi YAMADA[1], Takehiko NOHMI[2], Kiyoshi FUKUHARA[3], Akihiko HIROSE[1]
[1]Division of Risk Assessment, National Institute of Health Sciences,
[2]Division of Genetics and Mutagenesis, National Institute of Health Sciences,
[3]School of Pharmacy, Showa University

P-40 **In silico prediction of induction of chromosomal aberration**

Takeshi MORITA[1], Yoshiyuki SHIGETA[1], Tomoko KAWAMURA[1], Yurika FUJITA[2], Hiroshi HONDA[2], Masamitsu HONMA[3]
[1]Division of Risk Assessment, National Institute of Health Sciences,
[2]R & D Safety Science Research, Kao Corporation,
[3]Division 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
Faculty of Engineering, Kyoto University

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 SHIBATA[1], Takeshi YAMAGATA[1], Akihiro KAWADE[1], Shoji ASAKURA[2], Naoki TORITSUKA[2], Naoki KOYAMA[2], Atsushi HAKURA[2]
[1]Preclinical Safety Research Unit, Tsukuba R&D Supporting Division, Sunplanet.Co.Ltd,
[2]Tsukuba 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 ODA[1], Shinji HASEGAWA[2], Takahiro MATSUO[2]
[1]R&I Business Development, Sysmex Corporation, [2]R&I Sales, Sysmex Corporation

P-47 **Analysis of the mutation spectrum of the extreme thermophile *Thermus thermophilus* HB27 Δ*udgA,B* strain using a *supF*-based mutation detection system**

Yoichiro TOGAWA[1], Tatsuo NUNOSHIBA[2], Keiichiro HIRATSU[3]
[1]Graduate School of Science and Engineering, National Defense Academy,
[2]College of Liberal Arts, International Christian University,
[3]Department 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**

Yoshimitsu ODA[1], Na LI[2], Mei MA[2], Kaifeng RAO[2], Zijian WANG[2], Wei JIN[3], Gang HONG[3], Zhiguo LI[3], Yi LUO[3]
[1]Institute of Life and Environmental Sciences, Osaka Shin-Ai College,
[2]Key Laboratory of Drinking Water Science and Technology, Research Center for Eco- Environmental Sciences, Chinese Academy of Sciences,
[3]Shijiazhuang Environmental Monitoring Center

P-49 **Construction of yeast reporter assay system to detect environmental heavy metals**

Motoshi NISHIMURA, Yui MIZUTANI, 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 FUJII
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, Munehiro NAKAGAWA, Shuichi HAMADA
LSI Medience Corporation

P-53 **Determination and application of $ECC_{1.5}$ to evaluate the cytotoxicity of microtubule-binding drugs by live cell imaging of mouse m5S cells**

Ai KAWAKITA[1,2], Kaori MURATA[1,2], Kenji SUGIMOTO[1,2]
[1]Graduate School of Life and Environmental Sciences, Osaka Prefecture University, [2]Live Cell Imaging Institute

P-54 **The *in vitro* micronucleus assay of a multiwall carbon nanotube MWNT-7**

Toshiaki 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 FUKUDA[1], Maki NAKAMURA[1], Ryosuke SATO[1], Sho FUJIWARA[1], Akira SASSA[3], Akiko UKAI[2], Shunichi TAKEDA[4], Manabu YASUI[2], Masamitsu HONMA[2]
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[3]Dept. of Biology, Chiba Univ., [4]Dept. of Radiation Genetics, Graduate School of Medicine, Kyoto Univ.

P-57 **GPMA (genome profiling-based mutation assay) using a mammalian cell**

Baba MISATO[1], Parmila KUMARI[2], Sunita Ghimire GAUTAM[2], Motoki TSUKIASHI[1], Koji MATSUOKA[2], Koichi NISHIGAKI[2,3], Kiyoshi YASUKAWA[1]
[1]Graduate School of Agricutlure, Kyoto University,
[2]Graduate School of Science and Engineering, Saitama University,
[3]Japan 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 ASANO[1], Toshio KASAMATSU[2], Sachiko KITAMOTO[3], Takeki TSUTSUI[4], Kohji YAMAKAGE[5], Mika YAMAMOTO[6], Hajime KOJIMA[7]
[1]Osaka Shinai Jogakuin College, [2]Kao Corporation, [3]Sumitomo Chemical, [4]Nippon Dental University,
[5]Food and Drug safety Center, [6]Astellas Pharma Inc., [7]National Institute of Health Sciences

P-61 **Establishment of novel genotoxicity assay system using organoids derived from murine normal epithelial tissues**

Haruna SATO[1], Masako OCHIAI[2], Toshio IMAI[2], Yukari TOTSUKA[1]
[1]Division of Carcinogenesis and Prevention,National Cancer Center Research Institute,
[2]Department of Animal Experimentation,National Cancer Center Research Institute

P-62 **Construction of in vivo mimicking evaluation systems for nanomaterials**

Shoma KAMIO[1,2], Shungo SAITO[1,3], Masatoshi WATANABE[4], Kazuhiro SHIIZAKI[2], Yukari TOTSUKA[1]
[1]Division of Carcinogenesis and Cancer Prevention, National Cancer Research Institute, [2]Toyo University,
[3]YOKOHAMA National University, [4]Mie 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**

Katsuyoshi HORIBATA[1], Akiko UKAI[1], Akio OGATA[2], Dai NAKAE[2,3], Hiroshi ANDO[2], Yoshikazu KUBO[2], Akemichi NAGASAWA[2], Katsuhiro YUZAWA[2], Masamitsu HONMA[1]
[1]Division of Genetics and Mutagenesis, National Institute of Health Sciences,
[2]Department of Pharmaceutical and Environmental Sciences, Tokyo Metropolitan Institute of Public Health,
[3]Department 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 TAKASAWA[1], Miyuki SHIGANO[1], Yuhji TAQUAHASHI[2], Ayako TANAKA[1], Kiyoko NAKADATE[1], Katsuyoshi HORIBATA[2], Katsuaki YASUNAGA[1], Munehiro NAKAGAWA[1], Shuichi HAMADA[1], Masamitsu HONMA[2]
[1]LSI Medience Corporation, [2]National 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 SHIGANO[1], Satoru KAWAKAMI[2], Fuyumi UNO[3], Hajime SUI[4], Katsuya YAMADA[5], Soichiro HAGIO[6], Ayaka MOMONAMI[7], Akio MAEDA[8], Yukari TERASHIMA[9], Shuichi HAMADA[1]
[1]LSI Medience Corporation, [2]Asahi Kasei Pharma, [3]Biosafety Research Center, [4]Food and Drug Safety Center, [5]Mitsubishi Tanabe Pharma, [6]Nissan Chemical Industries, [7]Suntory MONOZUKURI Expert, [8]Toray Industries, [9]Kissei 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 FUJIISHI, 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 SILVA[1,2], Macks Wendhel GONÇALVES[1,2], Aparecido Divino da CRUZ[2,3], Rogério Pereira BASTOS[4], Paulo de MARCO-JR[4]
[1]Genetics and Mutagenesis Laboratory, Federal University of Goiás. Goiânia, GO, Brazil.,
[2]Replicon Research Nucleus, Agrary and Biological School, Goias Pontifical Catholic University. Goiânia, GO, Brazil.,
[3]Human Cytogenetics and Molecular Genetics Laboratory, State Health Secretary. Goiânia, GO, Brazil.,
[4]Animal 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 FURIHATA[1], Takayoshi SUZUKI[1], Takeshi TOYODA[2], Kumiko OGAWA[2]
[1]Div Mol Target Gene Therapy Products, National Institute of Health Sciences,
[2]Div. Pathology, National Institute of Health Sciences

P-74 **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

P-75 **Analyses of Mutational Signatures Induced by Chemicals using Model Organisms**

Nozomi AKIBA[1,3], Haruna SATO[1], Tomonari MATSUDA[2], Osamu ENDOU[3], Kazuho INABA[3], Yukari TOTSUKA[1]
[1]National Cancer Research Center, [2]Kyoto University, [3]Azabu University

P-76 **Exploration of cancer etiology using whole exome analysis and comprehensive DNA adduct analysis**

Yuya MAESAKO[1,4], Akane ZENKE[1], Asmaa ELZAWAHRY[2], Eisaku FURUKAWA[2], Mamoru KATO[2], Kouya SHIRAISHI[3], Takashi KOHNO[3], Kazuhiro SHIIZAKI[4], Yukari TOTSUKA[1]
[1]Div. Cancer Dev., [2]Div. Bioinformatics, [3]Div. Genome Biology, Natl. Cancer Ctr. Res. Inst., [4]Toyo University

Risk Assessment, Threshold

P-77 **Prediction of carcinogenicity from transgenic mouse assay data**

Yasunobu AOKI
Center for Health and Environmental Risk Research, National Institute for Environmental Studies

P-78 **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.

P-79 **Collaborative study of thresholds for mutagens: preliminary results**

Shizuyo SUTOU[1], Toshiyuki KUDO[1], Toshiyuki SHIRAGIKU[2], Akiko KOEDA[3], Kana KOMATSU[3], Hiroshi SEKI[4], Kohji YAMAKAGE[5], Takeshi NIITSUMA[5], Akihiro WAKATA[6]
[1]School of Pharmacy, Shujitsu University, [2]Otsuka Pharm., Co, Ltd., [3]Ina Res. Inc., [4]BML Inc.,
[5]Food & Drug Safety Center, [6]Astellas Pharm. Inc.

P-80 is presenting between P-55 and P-56.