

FY2023 Adopted Joint Usage/Research Projects (As of September 29, 2023)

| Joint Research Title | Joint Researcher (Representative) | Affiliated Organization | Resident Researcher (Representative) | Affiliated Organization | New · Conti. |
|---|-----------------------------------|--|--------------------------------------|-------------------------|--------------|
| 【Projects responding to Fukushima Nuclear Power Plant accident】 | | | | | |
| 1. Research on low-dose and low-dose rate radiation effects | | | | | |
| A study on radiation effects to the circulatory system of wild-type mice | Nobuyuki Hamada | Central Research Institute of Electric Power Industry | Yukihito Higashi | Hiroshima University | Conti. |
| Role of tumor microenvironment in radiation-induced tumor | Tsutomu Shimura | National Institute of Public Health | Megumi Sasatani | Hiroshima University | Conti. |
| The analysis of the specific mutational signatures induced by low-dose(-rate) irradiation using a SV-NGS method | Hidehiko Kawai | Hiroshima University | Megumi Sasatani | Hiroshima University | Conti. |
| Investigation of the effects of chronic exposure of low dose radiation on animal health | MURATA TAKAHISA | The University of Tokyo | Osamu Kaminuma | Hiroshima University | Conti. |
| Retaining of labels and DNA damage in rat mammary gland | Tatsuhiko Imaoka | Natl Institutes for Quantum Science and Technology | Keiji Suzuki | Nagasaki University | Conti. |
| Genome-wide analysis for the transgenerational effects of low-dose radiation exposure | Uchimura Arikuni | Radiation Effects Research Foundation | Osamu Kaminuma | Hiroshima University | Conti. |
| Analysis of somatic mutation induction by using a hyper-sensitive system | Hiroshi Tauchi | Ibaraki University | Keiji Suzuki | Nagasaki University | Conti. |
| The tenth-year decontamination after Fukushima accident | Satoru Nakashima | Hiroshima University | Yu Abe | Nagasaki University | Conti. |
| Radiation exposure and the resulting risk of genomic destabilization | Ken-ichi Yoshioka | National cancer center research institute | Satoshi Tashiro | Hiroshima University | Conti. |
| Understanding of the impact of discharged wastewater to rainfall over Japan | Kurita, Naoyuki | Nagoya University, Tokai National Higher Education and Research System | Hiroshi Yasuda | Hiroshima University | Conti. |
| Histopathological examination of juvenile thyroid cancer in the area around Chernobyl and in Japan | Masahiro Ito | NHO Nagasaki Medical Center | Masahiro Nakashima | Nagasaki University | Conti. |
| Biological effects of low-dose/low-dose-rate exposure on stem cells | Daisuke IIZUKA | National Institutes for Quantum Science and Technology | Megumi Sasatani | Hiroshima University | Conti. |
| Gender and p53 differences in life span extension by radiation adaptive response | Ryuji Okazaki | University of Occupational and Environmental Health, Japan | Keiji Suzuki | Nagasaki University | New |
| Simulation studies to reinforce the interpretation of the differences between results of animal experiments and epidemiological studies | Doi Kazutaka | National Institute for Quantum Science and Technology | Megumi Sasatani | Hiroshima University | Conti. |

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| Simulation studies to evaluate the impact of confounding factors on risk estimates in low dose and dose rate radiation | Doi Kazutaka | National Institute for Quantum Science and Technology | Shinji Yoshinaga | Hiroshima University | Conti. |
| Development of an analytical method to quantitatively evaluate biological effects caused by low-dose or low-dose-rate irradiation | Nobuhiro Morishima | RIKEN | Megumi Sasatani | Hiroshima University | Conti. |
| High sensitivity analysis of DNA damage induced by ionizing radiation of low dose and low dose rate | Hiroaki Terato | Okayama University | Hiroshi Yasuda | Hiroshima University | Conti. |
| Live cell imaging using a genetic probe for detection of radiation effects | Kensuke Otsuka | Central Research Institute of Electric Power Industry | Keiji Suzuki | Nagasaki University | Conti. |
| Suppressive effect of low-dose X-ray on cell death in cerebral ischemia-reperfusion model | Katoh Shinsuke | Yokohama University of Pharmacy | Yu Abe | Nagasaki University | New |
| Analysis of the effects of Pb-210 and Po-210 ingested through food on the incidence of human cancer | YU CAI | The University of Tokyo | Shinji Yoshinaga | Hiroshima University | New |
| Assessing Dose of Representative Persons in the Environment focusing on Naturally Occurring Radioactive Materials | Hiroimi Koike | The University of Tokyo | Seiko Hirota | Hiroshima University | Conti. |
| Construction of a low-concentration exposure field simulates the natural environment | Aoi Sampei | Hirosaki University | Tetsuo Ishikawa | Fukushima Medical University | New |
| Relationship of oxidative stress with cellular responses under low dose rate irradiation | Junya Kobayashi | International University of Health and Welfare | Shinya Matsuura | Hiroshima University | Conti. |
| Factor analysis on the effects of radiation disasters on obesity in children in Fukushima Prefecture | Shobugawa Yugo | Niigata University | Tetsuya Ohira | Fukushima Medical University | Conti. |
| Effect of low-dose/low-dose-rate radiation exposure on Th1/Th2 balance in mice | Eiji TAKAYAMA | Asahi University School of Dentistry | Tatsuo Ichinohe | Hiroshima University | Conti. |
| The study of DNA damage accumulation in response to long-term low-dose/low-dose rate radiation exposure | Masatoshi Suzuki | Tohoku University | Keiji Suzuki | Nagasaki University | Conti. |
| Risk assessment of carcinogenesis due to exposure to tritiated water using a mouse model with high susceptibility to carcinogenesis | Toshiyuki Umata | University of Occupational and Environmental Health, Japan | Megumi Sasatani | Hiroshima University | Conti. |
| Effect of mesenchymal stem cells on radiation-induced tissue injury | Nakashima Ayumu | Hiroshima University | Yukihito Higashi | Hiroshima University | Conti. |

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【Projects responding to Fukushima Nuclear Power Plant accident】

2.Development of diagnostic and treatment methods for internal radiation exposure

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|---|-----------------|-------------------------------|-----------------|----------------------|--------|
| Exploration of biomarkers for the differential diagnosis of follicular thyroid cancer and novel drug-targeted molecules for their treatment | Osamu Ishibashi | Osaka Metropolitan University | Satoshi Tashiro | Hiroshima University | Conti. |
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【Projects responding to Fukushima Nuclear Power Plant accident】

3.Research and development of radiation-protective drugs

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|--|----------------------|--|-----------------|----------------------|--------|
| Verification of the effect of cyclodextrin on reducing the absorption of radioactive iodine into the body | Shigeki Ito | Kumamoto University | Kodai Nishi | Nagasaki University | Conti. |
| Experimental studies on radiation and Curcumin analogues, GO-Y030, GO-Y022 and GO-Y078. Molecular mechanisms of radioresistance and radiosensitivity in human cancer cells | Eiko Nakata | International University of Health and Welfare | Shinya Matsuura | Hiroshima University | Conti. |
| Phytochemical analysis of herbs for discovering radioprotectants | Katsuyoshi Matsunami | Hiroshima University | Satoshi Tashiro | Hiroshima University | Conti. |

【Projects responding to Fukushima Nuclear Power Plant accident】

4.Research on risk communication regarding radiation disasters

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|--|------------------|---|--------------------|------------------------------|--------|
| Clarifying the influence of latent damage of thyroid on the sensitivity of thyroid hormone in pituitary gland | Yuji Shimizu | Nagasaki University | Naomi Hayashida | Nagasaki University | New |
| Evaluation study of changes in physical, psychological, and social risk factors that influence health behavior | Takahiro TABUCHI | Osaka International Cancer Institute | Tetsuya Ohira | Fukushima Medical University | Conti. |
| An analytical study on the tendency of information dissemination and acquisition about nuclear before and after a radiation disaster | Takeshi IIMOTO | The University of Tokyo | Hiroshi Yasuda | Hiroshima University | Conti. |
| Cohort Study on Long-term Group Living Conditions and Maintenance of Physical Ability of Affected Elderly People in Public Housing (Iodobata Nagaya) in Soma Area after the 2011 Great Japan East Earthquake | Saito Hiroaki | Soma Central Hospital | Masaharu Tsubokura | Fukushima Medical University | New |
| Association between parity status and after great disaster psychological stress tolerance | Yasukawa Sumiyo | Faculty of Health Sciences, Okayama University Institute of Academic and Research | Tetsuya Ohira | Fukushima Medical University | Conti. |
| Study for searching radioprotector/radiosensitizer using plasmid DNA damage as indicator | Katrunori Yogo | Nagoya University | Hiroshi Yasuda | Hiroshima University | Conti. |

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| A survey of medicines' demands of Minamisoma Municipal General Hospital affected by triple disaster after the Great East Japan Earthquake | Takanao Hashimoto | Kenkodo Pharmacy | Masaharu Tsubokura | Fukushima Medical University | Conti. |
| Effectiveness of educational workshops including risk communication for Fukushima nuclear power plant workers | Ryuji Okazaki | University of Occupational and Environmental Health, Japan | Seiji Yasumura | Fukushima Medical University | New |
| Case studies of public health activities in evacuated areas and surrounding areas after the Fukushima Daiichi Nuclear Power Plant accident | Yoshitaka Nishikawa | Kyoto University | Seiji Yasumura | Fukushima Medical University | Conti. |
| Survey on Disaster-Related Deaths in the Soso area after the Fukushima Daiichi nuclear power plant accident | Toyoaki Sawano | Jyoban Hospital of Tokiwa Foundation | Masaharu Tsubokura | Fukushima Medical University | New |
| Survey of health effects and issues during and after emergency evacuation of vulnerable people in the Soso area after the Great East Japan Earthquake | Saori Nonaka | Minamisoma Municipal General Hospital | Masaharu Tsubokura | Fukushima Medical University | Conti. |
| Archiving local government responses in Tokyo metropolitan area in the face of environmental contamination by nuclear accident - A case of Kashiwa City, Chiba Prefecture | OKURA, Masahiro | The University of Tokyo | Akiko Kubota | Hiroshima University | New |
| Innovative approaches to risk management in cancer screening in the territory affected by the Chernobyl nuclear power plant disaster | Tamara Sharshakova | Gomel State Medical University | Naomi Hayashida | Nagasaki University | New |
| Ethical Challenges in Health and Disaster Research | Sudeepa Abeysinghe | University of Edinburgh | Aya Goto | Fukushima Medical University | Conti. |
| Fostering "Dietary Choice" of Elementary School Students: The Next Generation of Shokuiku in Fukushima Prefecture after the Fukushima Nuclear Accident | Satoko Okabe | Koriyama Women's University | Aya Goto | Fukushima Medical University | Conti. |
| Research on the incidence and death of diseases and their distribution of evacuees and returnees after the Great East Japan Earthquake | SUN ZHICHAO | University of Tsukuba Hospital | Tetsuya Ohira | Fukushima Medical University | Conti. |
| A Proposal for Risk Management Methods in Local Governments: The Case of Kashiwa City, Chiba Prefecture | Hashima Shun | The University of Tokyo | Akiko Kubota | Hiroshima University | New |

【Other important projects】

1. Research on the molecular mechanisms of genomic damage and repair

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|---|-------------------|----------------------|-----------------|----------------------|--------|
| Role of XRCC3 polymorphism in pathogenesis and progression of cardiac hypertrophy | Chiemi Sakai | Hiroshima University | Satoshi Tashiro | Hiroshima University | Conti. |
| The analysis for the endoplasmic reticulum function altered by cellular stress | Kazunori Imaizumi | Hiroshima University | Akiko Nagamachi | Hiroshima University | Conti. |

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| Regulation of chromatin structures involved in repair of UV-induced DNA damage | Kaoru Sugawara | Kobe University | Satoshi Tashiro | Hiroshima University | Conti. |
| Analysis of the role of histone H2AZ ubiquitination in genome maintenance | Kouji Hirota | Tokyo Metropolitan University | Satoshi Tashiro | Hiroshima University | Conti. |
| Analysis of ATM activation by delayed mitochondrial ROS | Genro Kashino | Nara Medical University | Keiji Suzuki | Nagasaki University | Conti. |
| Effects of radiation on development and aging in zebrafish | Hiroshi Hirata | Aoyama Gakuin University | Yasuko Honjo | Hiroshima University | Conti. |
| Role of unrepaired DNA damages in the radiation induced mutagenesis | Noda Asao | Radiation Effects Research Foundation | Keiji Suzuki | Nagasaki University | Conti. |
| Time-lapse analysis of nuclear factors involved in DNA damage response and repair | Ken-ichi Yano | Kumamoto University | Keiji Suzuki | Nagasaki University | Conti. |
| Analysis of the mechanisms involved in radiosensitivity of malignant glioma cells | Hama Seiji | Graduate School of Biomedical and Health Sciences, Hiroshima University | Shinya Matsuura | Hiroshima University | Conti. |
| Molecular pathologic characteristics of benign thyroid nodules showing nodule in nodule morphology | Mayu Ueda | Nagasaki University | Katsuya Matsuda | Nagasaki University | Conti. |
| Role of NBS1 protein in cellular responses to ionizing radiation | Hiroshi Tauchi | Ibaraki University | Shinya Matsuura | Hiroshima University | Conti. |
| A study of induction-mechanisms of DNA double-strand breaks | Isao Kuraoka | Fukuoka University | Satoshi Tashiro | Hiroshima University | Conti. |
| Histone H3K36 methyltransferase functions in DNA repair | URA Kiyoe | Chiba University | Satoshi Tashiro | Hiroshima University | Conti. |
| Analysis of cellular function of polyubiquitinated PCNA | Masuda, Yuji | Nagoya University, Tokai National Higher Education and Research System | Megumi Sasatani | Hiroshima University | Conti. |
| Molecular mechanisms of DNA damage repair in the pathogenesis of cardiovascular diseases | Mari Ishida | Hiroshima University | Satoshi Tashiro | Hiroshima University | Conti. |
| Interaction between nuclear DNA damage and mitochondrial DNA damage | Mari Ishida | Hiroshima University | Satoshi Tashiro | Hiroshima University | Conti. |

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| Role of DNA damage response in Metabolic dysfunction associated fatty liver disease | Yuko Akazawa | Nagasaki University Graduated School of Biomedical Sciences | Masahiro Nakashima | Nagasaki University | New |
| Analysis of genomic instability in breast cancer carcinogenesis by 53BP1 expression | Otsubo Ryota | Nagasaki University Hospital | Katsuya Matsuda | Nagasaki University | New |
| Analysis of DNA damage response molecular expression as a prognostic predictor of oropharyngeal cancer | Hideaki Nishi | Nagasaki University Hospital | Katsuya Matsuda | Nagasaki University | Conti. |
| Mechanism by which splicing factors promote repair of radiation-induced DNA double-strand breaks | Motohiro Yamauchi | Kyushu University | Keiji Suzuki | Nagasaki University | Conti. |
| Effects of phase separation of DNA double-strand break repair factors on the frequency of chromosome rearrangement | Kie Ozaki | Kyushu University | Yu Abe | Nagasaki University | Conti. |
| Studies on genomic damage caused by viral infection and radiation | Hironori Yoshiyama | Shimane University | Shinya Matsuura | Hiroshima University | Conti. |
| Wnt/ β -catenin signal modulates DDR and EMT by dimethylation of histone H3K36 through NSD2 in hepatocellular carcinoma | Yasuaki Shibata | Nagasaki University Graduate School of Biomedical Sciences | Masahiro Nakashima | Nagasaki University | New |
| Novel responsible genes of diseases with genomic instability around the Chernobyl area | Tomoo Ogi | Nagoya University | Norisato Mitsutake | Nagasaki University | Conti. |
| Elucidation of the role of Rif1 in DSB repair | Tomohiro Iguchi | Tokyo Metropolitan Institute of Medical Science | Osamu Kaminuma | Hiroshima University | Conti. |
| 53BP1 fluorescent staining expression as DNA damage response in the patients of superficial laryngopharyngeal squamous cell carcinoma | Tabuchi Maiko | Nagasaki University Hospital | Masahiro Nakashima | Nagasaki University | Conti. |
| Disruption mechanism of DSB-dependent chromatin regulation in response to decreased UBE3B expression | Okada Maiko | Tokyo University of Technology | Keiji Suzuki | Nagasaki University | New |
| Hypoxia signal and DNA damage response in aging | Bhawal Ujjal | Nihon University | Keiji Tanimoto | Hiroshima University | Conti. |
| Roles of epigenomic modification on DNA damage response under hypoxic conditions | Eisaburo Sueoka | Saga University | Keiji Tanimoto | Hiroshima University | Conti. |
| Histone H3K4me3 regulated by PTIP is required for the DNA damage response | Nakata Yuichiro | Chiba University | Osamu Kaminuma | Hiroshima University | Conti. |
| Roles of the hypoxia-inducible factor- α in radiation sensitivity | Yuichi Makino | Asahikawa Medical University | Keiji Tanimoto | Hiroshima University | Conti. |

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| Transcriptome analyses of radiation responses in hypoxia by using public database | Hirosama Ono | Research Organization of Information and Systems | Keiji Tanimoto | Hiroshima University | Conti. |
| The role of TIP60 histone acetyltransferase complex in radiation-induced DNA damage response | Tsuyoshi Ikura | Kyoto University | Satoshi Tashiro | Hiroshima University | Conti. |
| Mechanisms of DNA damage responses in hypoxic cancer cells | Hidetaka Eguchi | Juntendo University | Keiji Tanimoto | Hiroshima University | Conti. |
| Study on the mechanism of zygotic genome activation using early rat embryos | Kohtaro Morita | Kyoto University | Kento Miura | Hiroshima University | New |
| Analysis of the molecular mechanism of the genomic instability in carcinogenesis | Tomoko Ishikawa-Fujiwara | Osaka University | Megumi Sasatani | Hiroshima University | Conti. |
| Analysis of cellular strategy of autophagy-dependent cancer cell growth | FURUYA Kanji | Kyoto University | Yasuko Honjo | Hiroshima University | Conti. |
| Analysis of the role of non-canonical translation initiation factors in radiation-induced DNA damage restration | Kakuta Shigeru | The University of Tokyo | Osamu Kaminuma | Hiroshima University | Conti. |
| The cancer risk of ulcerative colitis investigated by 53BP1 fluorescent staining | Hashiguchi Keiichi | Nagasaki University Hospital | Masahiro Nakashima | Nagasaki University | Conti. |

【Other important projects】

2.Research on mechanisms of radiation carcinogenesis and development of cancer treatment

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|--|-------------------|--|-----------------|----------------------|--------|
| Genomic and epigenomic analysis of hematological malignancies | Hirotsuka Matsui | Kumamoto University | Akiko Nagamachi | Hiroshima University | Conti. |
| Development of a screening method for anticancer drugs targeting the error-prone DNA repair pathway activated in cancer cells after Ionizing radiation | Kohzaki Masaoki | University of Occupational and Environmental Health, Japan | Keiji Suzuki | Nagasaki University | Conti. |
| Elucidation of molecular mechanism of ATM-activation by metformin | Tomoyuki Hamamoto | Showa Pharmaceutical University | Keiji Suzuki | Nagasaki University | Conti. |
| Exploring new functions of ascorbic acid for effective cancer suppression and radiation protection | Habu, Toshiyuki | Mukogawa Women's University | Megumi Sasatani | Hiroshima University | Conti. |
| Preliminary study for genome analysis using preserved blood specimens from atomic bomb survivors | Tomonori Hayashi | Radiation Effects Research Foundation | Shinya Matsuura | Hiroshima University | Conti. |
| The effect of low-dose irradiation on the functions of tumor-associated macrophages | Shotaro Nakajima | Fukushima Medical University | Osamu Kaminuma | Hiroshima University | Conti. |

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| Histopathological analysis in the carcinogenic processes on radiation-induced intestinal tumor | Morioka Takamitsu | Nat'l Insti. for Quantaum Science and Technology | Megumi Sasatani | Hiroshima University | Conti. |
| Elucidation of the mechanism of radiation-induced hepatocarcinogenesis | Morioka Takamitsu | Nat'l Insti. for Quantaum Science and Technology | Keiji Suzuki | Nagasaki University | Conti. |
| Analysis of radiation-specific molecular abnormalities in skin cancer associated with medical radiation exposure | Hiroyuki Murota | Nagasaki university | Masahiro Nakashima | Nagasaki University | Conti. |
| Carcinogenic mechanism of B-cell lymphoma/leukemia by radiation exposure | Hirota TACHIBANA | Central Research Institute of Electric Power Industry | Megumi Sasatani | Hiroshima University | New |
| p16INK4A expression in radioiodine-refractory radiogenic and sporadic thyroid cancer from Ukraine | Liudmyla Zurnadzhy | State Institution "VP Komisarenko Institute of Endocrinology and Metabolism of the NAMS of Ukraine" (IEM) | Vladimir Saenko | Nagasaki University | Conti. |
| Development of the novel cancer therapy based on host immune surveillance | Yasuda Tomoharu | Hiroshima University | Toshiya Inaba | Hiroshima University | Conti. |
| Detection of mutational signatures in the cancer tissue of Nagasaki atomic bomb survivors | Yuko Akazawa | Nagasaki University Graduated School of Bionedical Sciences | Masahiro Nakashima | Nagasaki University | New |
| Does PET/CT predict histopathological diagnosis in early esophageal squamous cell carcinoma? | Yuko Akazawa | Nagasaki University Graduated School of Bionedical Sciences | Takashi Kudo | Nagasaki University | New |
| Analysis of the malignant transformation mechanism of highly metastatic cells derived from a metastasis model of small cell lung cancer | SHUICHI SAKAMOTO | Microbial Chemistry Research Foundation | Megumi Sasatani | Hiroshima University | Conti. |
| Analyses of hepatic stellate cells and macrophages associated with radiation liver carcinogenesis in mice | Masataka Taga | Radiation Effects Research Foundation | Keiji Suzuki | Nagasaki University | Conti. |
| Genomic mutation analysis of radiation-induced mouse hepatocellular carcinoma | Yi SHANG | National Institutes for Quantum Science and Technology | Keiji Suzuki | Nagasaki University | Conti. |
| Role of miR-214/Per1 in mediating circadian variation of radiation sensitivity between normal and cancer cells | Ning-Ang Liu | Suzhou Medical College of Soochow University | Jiyong Sun | Hiroshima University | Conti. |
| Cellular kinetics of hematopoietic stem cell with Sfp1 gene deletion in bone marrow and spleen of X-irradiated mice | Mitsuaki Ojima | Oita University of Nursing and Health Sciences | Keiji Suzuki | Nagasaki University | Conti. |
| Expression of p16INK4A as a predictor of survival in patients with poorly differentiated thyroid carcinoma | Mikhail Frydman | Minsk City Clinical Oncological Center | Vladimir Saenko | Nagasaki University | New |
| Establishment of novel antitumoral strategy targeting tumor-associated microvessels | Masahiko KANEHIRA | University of Yamanashi Center for Life Science Research | Osamu Kaminuma | Hiroshima University | New |

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| Etiology-specific roles of four genetic loci conferring risk for radiation-related and sporadic thyroid cancer in pediatric and adult patients from Belarus | Tatsiana Leonava | Minsk City Clinical Oncological Center | Vladimir Saenko | Nagasaki University | Conti. |
| Development of 90Y-labeled internal radiation therapy agents - Molecular design for elucidation of radiation damages and decrease in radiation dose | FUCHIGAMI Takeshi | Kanazawa University | Kodai Nishi | Nagasaki University | Conti. |
| Analysis of myelodysplastic syndromes/myeloproliferative disorders in atomic bomb survivors | Daisuke Imanishi | Nagasaki Goto Chuoh Hospital | Yasushi Miyazaki | Nagasaki University | Conti. |
| Development of NFAT isoform selective control method as a novel cancer treatment strategy | Noriko Kitamura | Tokyo Metropolitan Institute of Medical Science | Osamu Kaminuma | Hiroshima University | Conti. |
| Mechanisms of radiation carcinogenic susceptibility, explored from changes in the tissue microenvironment | Masaaki Sunaoshi | National Institutes for Quantum Science and Technology | Keiji Suzuki | Nagasaki University | Conti. |
| Study of radiation-induced senescence in helper T cells (2) | Wang Duo | University of Occupational and Environmental Health, Japan | Keiji Suzuki | Nagasaki University | Conti. |
| Mechanisms of cancer immune surveillance in Radiation Carcinogenesis | Yun Guo | Hiroshima University | Megumi Sasatani | Hiroshima University | New |
| Development of estimation protocol for radiosensitivity of individual using iPS cells and Raman spectroscopy | Horie Masanobu | Kyoto University | Hideaki Fujita | Hiroshima University | Conti. |
| Study on the effect of irradiation on the structure and functions of laminin molecule in basement membrane | KOSHIKAWA NAOHIKO | Tokyo Institute of Technology | Osamu Kaminuma | Hiroshima University | New |
| Molecular mechanisms of radio-resistance in thyroid cancers | TANAKA Aya | Nagasaki University | Norisato Mitsutake | Nagasaki University | Conti. |
| Gene mutation analysis study in basal cell carcinoma | Kazumitsu Sugiura | Fujita Health University | Osamu Kaminuma | Hiroshima University | New |
| Long-term control of glioma stem cell population recurrence by radiation and a novel chemotherapeutic paradigm | SUGIMORI, MICHIIYA | University of Toyama | Norisato Mitsutake | Nagasaki University | Conti. |
| The analysis of acute myeloid leukemia with co-existing CBFβ::MYH11 and minor BCR::ABL1 fusion genes | Yoko Mizoguchi | Hiroshima University | AKUTSU SILVIA NATSUKO | Hiroshima University | New |
| The elucidation of a carcinogenic mechanism and determinants of malignancy for human cancers | Eiso Hiyama | Hiroshima University | Keiji Tanimoto | Hiroshima University | Conti. |

【Other important projects】

3. Basic research on development of medical care for radiation disasters

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|---|-------------|----------------------|-----------------|----------------------|--------|
| Analysis of stress responsive substances induced by cerebral ischemia | Sakai Norio | Hiroshima University | Satoshi Tashiro | Hiroshima University | Conti. |
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| Development of analysis techniques using three-dimensional electron microscopy for evaluation of radiation damage | Takeshi Itabashi | Yamaguchi University | Satoshi Tashiro | Hiroshima University | New |
| Mouse model study of clonal hematopoiesis and cardiovascular disease | Yoichiro Kusunoki | Radiation Effects Research Foundation | Megumi Sasatani | Hiroshima University | Conti. |
| Analysis of the pathophysiology for periodontal disease, a risk factor for radiation-induced jaw osteonecrosis. | Tanaka Yoshihiko | Fukuoka Dental College | Osamu Kaminuma | Hiroshima University | Conti. |
| Analyses of mechanisms underlying lung fibrosis, and search for target molecules for drug development | Takeshi Nabe | Faculty of Pharmaceutical Sciences, Setsunan University | Osamu Kaminuma | Hiroshima University | Conti. |
| Comprehensive searches for novel biomarkers associated with radiation-induced liver injury in mice | Masataka Taga | Radiation Effects Research Foundation | Megumi Sasatani | Hiroshima University | Conti. |
| Dose estimation for cattle affected by the nuclear accident using nondestructive electron spin resonance | YAMAGUCHI Ichicho | National Institute of Public Health | Hiroshi Yasuda | Hiroshima University | New |

【Other important projects】

4. Basic research on regenerative medicine approaches to improve radiation treatment

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| Regenerative medicine in cardiovascular diseases | Kajikawa Masato | Hiroshima University | Yukihito Higashi | Hiroshima University | Conti. |
| Research on the function and mechanism of cardiomyocyte physiology | Takahashi Masafumi | Jichi Medical University | Yukihito Higashi | Hiroshima University | Conti. |
| Reprogramming of human bone marrow-derived mesenchymal stem cells and treatment of radiation damage to normal tissues | Yoshio Hosoi | Tohoku University | Shinya Matsuura | Hiroshima University | Conti. |
| Analysis of the function of cardiac muscle cells | Goto Chikara | Hiroshima International University | Yukihito Higashi | Hiroshima University | Conti. |
| Analysis of inflammatory responses induced by necrotic cells | Kisaburo NAGATA | University of Toho | Osamu Kaminuma | Hiroshima University | Conti. |
| Elucidating the role of T cell repertoire variation in disease pathogenesis | Kimiko Inoue | Bioresource Research Center, RIKEN | Osamu Kaminuma | Hiroshima University | Conti. |
| Research on analysis of vascular endothelial cell function | Akira Taguchi | Matsumoto Dental University | Yukihito Higashi | Hiroshima University | Conti. |
| Effects of Radiation Exposure on Kidney | Akira Nishiyama | Kagawa University | Yukihito Higashi | Hiroshima University | Conti. |

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| Musculoskeletal Regenerative Therapy with MSC-derived Exosomes | NOBUO ADACHI | Hiroshima University | Yukihito Higashi | Hiroshima University | Conti. |
| Investigation of the effects of mesenchymal stem cells on radiation-induced cardiovascular lesions | Takahiro Harada | Hiroshima University | Yukihito Higashi | Hiroshima University | New |

【Other important projects】

5. Evaluative research on health effects and health risks associated with radiation disasters

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| The effect of radiation on transportation of regenerative medicine | Aoyama Tomoki | Kyoto University | Hiroshi Yasuda | Hiroshima University | Conti. |
| Association of radiation exposure with atherosclerosis and cardiovascular disease among atomic bomb survivors | Sasaki Nobuo | Hiroshima Atomic Bomb Casualty Council | Yukihito Higashi | Hiroshima University | Conti. |
| Clonal hematopoiesis-related somatic mutation analyses in Hiroshima atomic-bomb survivors | Kengo Yoshida | Radiation Effects Research Foundation | Yasushi Miyazaki | Nagasaki University | New |
| Source strength and indoor position-based distribution of radon and thoron: an experiment in a model room and real houses using active and passive monitors | Changting Guh | The University of Tokyo | Tetsuo ISHIKAWA | Fukushima Medical University | New |
| Long-term health effect study of young people who evacuate after the Great East Japan Earthquake | Kana Yamamoto | Medical Governance Research Institute | Masaharu Tsubokura | Fukushima Medical University | Conti. |
| The effects of post-disaster lifestyle changes on the results of health checkups among children and adolescents | Yamagishi Kazumasa | University of Tsukuba | Tetsuya Ohira | Fukushima Medical University | Conti. |
| Role of short-chain fatty acids in intestinal immune system | Chiharu Nishiyama | Tokyo University of Science | Osamu Kaminuma | Hiroshima University | New |
| The effects of radiation exposure and background factors on the development of renal disease | Konta Tsuneo | Yamagata University | Seiji Yasumura | Fukushima Medical University | Conti. |
| Flow rate dependence of collection filters for alpha particles dust monitor | Kiso Mizuki | Hiroshima University | Tetsuo Ishikawa | Fukushima Medical University | New |
| An interview survey to search for the causes of decreased access to cancer care after the 2011 Fukushima triple disaster | Akihiko Ozaki | Jyoban Hospital of Tokiwa Foundation | Masaharu Tsubokura | Fukushima Medical University | Conti. |
| Study on Influence Factors on Radon Exhalation rate from soil - the improvement of accumulation chamber technique | Qianhao JIN | The University of Tokyo | Yasuda Hiroshi | Hiroshima University | New |
| Long-term trend of the subjective health: the Fukushima health management survey | Masato Nagai | Osaka Medical and Pharmaceutical University | Tetsuya Ohira | Fukushima Medical University | Conti. |

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| Joint Research Title | Joint Researcher (Representative) | Affiliated Organization | Resident Researcher (Representative) | Affiliated Organization | New. · Conti. |
|--|-----------------------------------|--|--------------------------------------|------------------------------|---------------|
| Relationship between dietary patterns after radiation disasters and future mental distress: Fukushima Prefectural Health Survey | Yoshida Junko | Fukuyama University | Tetsuya Ohira | Fukushima Medical University | Conti. |
| Association between Laughter and Lifestyle Diseases after the Great East Japan Earthquake | Eri Eguchi | Fukushima Medical University | Tetsuya Ohira | Fukushima Medical University | Conti. |
| Association between sleep state and mental health state among elementary school children | Tanigawa Takeshi | Juntendo University Graduate School of Medicine | Tetsuya Ohira | Fukushima Medical University | Conti. |
| Relationship between changes in living and economic environment before and after the Great East Japan Earthquake and cardiovascular disease: the Fukushima Health Management Survey | Ai Noda | Juntendo University Graduate School of Medicine | Tetsuya Ohira | Fukushima Medical University | Conti. |
| The impact of a disaster on smoking behavior after the Great East Japan Earthquake | Risa Murakami | Kobe University Graduate School of Health Sciences | Tetsuya Ohira | Fukushima Medical University | Conti. |
| Basic research on the history of research on the health effects of radiation disasters using ABCC/RERF-related materials | Kaori Iida | Graduate Univ. for Advanced Studies, SOKENDAI | Akiko Kubota | Hiroshima University | Conti. |
| Research on the indicators of health impact caused by nuclear disaster | Ochi, Sae | The Jikei University School of Medicine | Seiji Yasumura | Fukushima Medical University | Conti. |
| Association between lifestyle changes and the prevalence of abdominal obesity for four years after the Great East Japan Earthquake: The Fukushima Health Management Survey | Mayu Uemura | Nagoya University | Tetsuya Ohira | Fukushima Medical University | Conti. |
| The incidence of diabetes on the association with psychological distress in the cohort of evacuee after the Great East Japan Earthquake in Fukushima, Japan: A 10-year follow-up of the Fukushima Health Management Survey | Ryo Kawasaki | Osaka University | Seiji Yasumura | Fukushima Medical University | Conti. |
| Cross-cultural study of information needs and organizational approaches on diabetes issues of population in Gomel and Fukushima | Anastasiya Sachkouskaya | Gomel State Medical University | Aya Goto | Fukushima Medical University | Conti. |
| Association of PTSD symptoms, mental distress, and CVD among residents in the evacuation area of Fukushima after the Great East Japan Earthquake | Kazuhide Tezuka | Sakamoto Mental Health Center | Tetsuya Ohira | Fukushima Medical University | Conti. |
| Analysis of Social Signification Process of Medical-Scientific Statements: Using Newspaper Articles as Examination Materials | NOMIYA, Daishiro | Chuo University | Akiko Kubota | Hiroshima University | New |
| Spatiotemporal variation of natural radon isotopes in assessing indoor human exposures and effective countermeasures using room based experiments | HASAN MD MAHAMUDUL | The University of Tokyo | Tetsuo ISHIKAWA | Fukushima Medical University | Conti. |
| Differences in Mortality Trends among the elderly by whether they evacuated after the Great East Japan Earthquake | Tomotaka Sobue | Osaka University | Seiji Yasumura | Fukushima Medical University | New |

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| Joint Research Title | Joint Researcher (Representative) | Affiliated Organization | Resident Researcher (Representative) | Affiliated Organization | New. · Conti. |
|---|-----------------------------------|--|--------------------------------------|------------------------------|---------------|
| 【Other important projects】 | | | | | |
| 6.Application of radioisotopes to medical diagnosis and treatment | | | | | |
| Development of probes for radiotheranostics containing alpha emitter radionuclides | Ogawa Kazuma | Kanazawa University | Kazuhiro Takahashi | Fukushima Medical University | Conti. |
| Validation of dosimetry analysis using scintigraphy and correlation with renal toxicity of Lu-177-DOTATATE therapy in neuroendocrine neoplasm | Noriaki Miyaji | Fukushima Medical University | Noboru Oriuchi | Fukushima Medical University | Conti. |
| Development of a targeted theranostics platform using 211At | Nakamura Hiroyuki | Tokyo Institute of Technology | Kohshin Washiyama | Fukushima Medical University | Conti. |
| Establish of analysis method in the original phantom for tau PET imaging | Kei Wagatsuma | Kitasato University | Kenta Miwa | Fukushima Medical University | Conti. |
| Development of novel radiotheranostics methods targeting tumor hypoxia | Yoichi Shimizu | Kyoto University | ZHAO Songji | Fukushima Medical University | Conti. |
| Development of 211At radiolabeling reaction via aryl boronic acid or ester precursor and its application to radio-theranostics probes | KIMURA HIROYUKI | Kanazawa University | Kazuhiro Takahashi | Fukushima Medical University | Conti. |
| Development of a new therapeutic strategy for aspergillosis using radioisotopes | Masato Tashiro | Nagasaki University Graduate School of Biomedical Sciences | Kodai Nishi | Nagasaki University | Conti. |
| Role of KATP channel molecules in radiation-induced neurological, urinary and reproductive system disorders | Ming Zhou | Akita University Graduate School of Medicine | Tao-Sheng Li | Nagasaki University | Conti. |
| Research on fundamental science and radiochemical characteristics of astatine | Ichiro Nishinaka | National Institutes for Quantum Science and Technology | Kohshin Washiyama | Fukushima Medical University | Conti. |
| Study of astatine-211 chemical separation method useful for internal isotope therapy | Yokoyama, Akihiko | Kanazawa University | Kohshin Washiyama | Fukushima Medical University | Conti. |
| Development of nuclear medicine imaging for drug-resistant bacterial infection | Masato Kobayashi | Kanazawa University | Kodai Nishi | Nagasaki University | Conti. |
| Study on PET image quality improvement by PET scanner | Yasuyuki Takahashi | Hirosaki University | Noboru Oriuchi | Fukushima Medical University | Conti. |
| Study on the molecular mechanism of targeted alpha therapy: intercellular communication through extracellular nucleotide | Yasuhiro Ohshima | National Institutes for Quantum Science and Technology | Naoyuki Ukon | Fukushima Medical University | New |

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| Joint Research Title | Joint Researcher (Representative) | Affiliated Organization | Resident Researcher (Representative) | Affiliated Organization | New. · Conti. |
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【Other important projects】

7. Medical radiation research

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|--|-------------------|---|--------------------|----------------------|--------|
| Assessment of DNA damage repair responses after heavy-ion radiation exposure | Asako J. Nakamura | Ibaraki University | Keiji Suzuki | Nagasaki University | Conti. |
| Development of radiation combination therapy drugs to increase cancer control rates through p53 regulation | Akinori Morita | Tokushima University | Toshiya Inaba | Hiroshima University | New |
| Research on the mechanism of radiation-induced taste disorders | Masaru Konishi | Hiroshima University Hospital | Shinya Matsuura | Hiroshima University | Conti. |
| Dose Distribution Assessment and Radiation Protection in Veterinary Hospitals | WANG Xueqing | The University of Tokyo | Hiroshi Yasuda | Hiroshima University | New |
| Development of novel radiosensitizing therapy for malignant brain tumors using photosensitizer precursor; 5-aminolevulinic acid | Kazuhiko Mishima | Saitama Medical University International Medical Center | Osamu Kaminuma | Hiroshima University | Conti. |
| Protective effect of p53 regulators against intestinal damage after multiple-dose irradiation | Yuichi Nishiyama | Tokushima University | Megumi Sasatani | Hiroshima University | Conti. |
| Novel therapeutic approaches targeting L-type amino acid transporters for radiation - induced cancer treatment | Keitaro Hayashi | Dokkyo Medical University | Osamu Kaminuma | Hiroshima University | Conti. |
| Assessment of exposure dose of X-ray of finger related to special needs dentistry | Minoru Miyake | Kagawa University | Hiroshi Yasuda | Hiroshima University | New |
| Effects of phytoestrogens on radiation response in hypoxic cancer cells | Takako Sakamoto | Jichi Medical University | Keiji Tanimoto | Hiroshima University | Conti. |
| Evaluation of clinico-pathological and molecular status of patients with radioactive iodine-refractory papillary thyroid cancer in Kazakhstan. | Laura Pak | Semey State Medical University | Masahiro Nakashima | Nagasaki University | New |

【Open-topic projects】

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|---|-------------------|--|--------------------|----------------------|--------|
| Neural basis of adaptive behaviors coping stress | Hidenori Aizawa | Hiroshima University | Hideshi Kawakami | Hiroshima University | Conti. |
| Effect of antibiotic and hormonal therapy on intrauterine microbial colonization in endometriosis | Khaleque Khan | Kyoto Prefectural University of Medicine | Masahiro Nakashima | Nagasaki University | Conti. |
| Functional screening of metabolites produced by plant derived lactic acid bacteria | Sugiyama Masanori | Hiroshima University | Keiji Tanimoto | Hiroshima University | Conti. |

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| Joint Research Title | Joint Researcher (Representative) | Affiliated Organization | Resident Researcher (Representative) | Affiliated Organization | New · Conti. |
|---|-----------------------------------|---|--------------------------------------|-------------------------|--------------|
| Search for novel therapeutic targets for knee osteoarthritis | Norimitsu Morioka | Hiroshima University | Keiji Tanimoto | Hiroshima University | Conti. |
| Examination of the effect of microRNA-26a on pulmonary fibrosis | Hattori Noboru | Hiroshima University, Graduate School of Biomedical and Health Sciences | Yoshihiro Miyata | Hiroshima University | New |
| Exploration of molecules that activate tumor-associated macrophages in hepatocellular carcinoma | Hiroyuki Tsuchiya | Tottori University | Yasuko Honjo | Hiroshima University | New |
| Profiling of Circulating T cells in Patients with Lymphedema | Hirofumi Imai | Hiroshima University Hospital | Tatsuo Ichinohe | Hiroshima University | Conti. |
| Research into the application of Tscm cells for the treatment of hepatitis | Hiromi Abe-Chayama | Hiroshima University | Tatsuo Ichinohe | Hiroshima University | Conti. |
| Investigation of treatment effects of adipose-derived stromal cells for psoriasis | Ryohei Ogino | Hiroshima University | Keiji Tanimoto | Hiroshima University | Conti. |
| Elucidation of the mechanism of immune response regulation by exercise | Daisuke Shiiba | Kurashiki University of Science and the Arts | Keiji Tanimoto | Hiroshima University | Conti. |
| Analysis of the interaction between BMP/Smad and TNF α -induced inflammatory signals. | Hirata-Tsuchiya Shizu | Hiroshima University | Toshiya Inaba | Hiroshima University | Conti. |
| Functional analysis of primary cilia using knockout cells | Koji Ikegami | Hiroshima University | Hideshi Kawakami | Hiroshima University | Conti. |
| Whole exome sequencing of Beckwith-Wiedemann syndrome patients without known causative (epi)genome alterations | Hidenobu Soejima | Saga University | Koh-ichiro Yoshiura | Nagasaki University | Conti. |
| Evaluation about a novel diagnostic kit-product and automatic immunochromatography-reader for detection of lymph node metastases in breast cancer applying the semi-dry dot-blot method | Ryota Otsubo | Nagasaki University Hospital | Masahiro Nakashima | Nagasaki University | New |
| Biological effects of chemicals on endogenous substances in vitro and in vivo (6) | Yaichiro Kotake | Hiroshima University | Nariaki Fujimoto | Hiroshima University | Conti. |
| Whole genome sequencing of amphibians having undergone remarkable adaptive evolution | Takeshi Igawa | Hiroshima University | Hideshi Kawakami | Hiroshima University | Conti. |
| Validation of the association between radiological morphology and proteasome expression in renal cell carcinoma | Kohei Kobatake | Hiroshima University | Osamu Kaminuma | Hiroshima University | New |

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| Joint Research Title | Joint Researcher (Representative) | Affiliated Organization | Resident Researcher (Representative) | Affiliated Organization | New. · Conti. |
|--|-----------------------------------|---|--------------------------------------|-------------------------|---------------|
| Identification of neural lineage fate determinants in the striatum of fetus mouse exposed in utero to radiation | SHIRAIISHI Kazunori | Osaka metropolitan university | Megumi Sasatani | Hiroshima University | New |
| Kinetic analysis of LAT1 expression and mTOR activation in ovarian cancer | Masaki Sekine | Graduate School of Biomedical and Health Sciences | Hideshi Kawakami | Hiroshima University | Conti. |
| Neuroprotective effects of ROCK inhibitors on retinal ganglion cells | Edo Ayaka | Hiroshima Univ. | Satoshi Tashiro | Hiroshima University | Conti. |
| Effects of Low-dose Radiation Exposure on Vascular Function | Harutoyo Hirano | Fujita Health University | Yukihito Higashi | Hiroshima University | Conti. |
| Functional analysis of optineurin in innate immunity | Masaya Fukushi | Hiroshima University | Hideshi Kawakami | Hiroshima University | Conti. |
| The analysis of adipose specific Ints6 conditional knockout mouse | Yuichiro Otani | Hiroshima University Hospital | Tatsuo Ichinohe | Hiroshima University | Conti. |
| The analysis of cancer genome and circulation tumor DNA for gastrointestinal cancer | Yuji Urabe | Hiroshima University Hospital | Akiko Nagamachi | Hiroshima University | Conti. |
| Prolyl isomerase are committed to the onset of both cancer and metabolic syndromes | Asano Tomoichiro | Hiroshima University | Toshiya Inaba | Hiroshima University | Conti. |
| Elucidation of epigenetic regulation for brown fat development | Haruya Ohno | Hiroshima University | Akiko Nagamachi | Hiroshima University | Conti. |
| Elucidation of intramyocardial calcium dynamics in A kinase anchor protein mutants | Yukiko Nakako | Hiroshima University | Satoshi Tashiro | Hiroshima University | Conti. |
| Investigation of the pathophysiology for hereditary neurological diseases | Masahiro NAKAMORI | Hiroshima University | Kodai Kume | Hiroshima University | Conti. |
| Analysis of causative genes for neurodegenerative diseases | Yui Tada | Hiroshima University | Hideshi Kawakami | Hiroshima University | New |
| Analysis of the role of innate lymphoid cell in pulmonary arterial hypertension | Nakae Susumu | Hiroshima University | Tatsuo Ichinohe | Hiroshima University | Conti. |
| Analysis of Staphylococcus aureus derived from atopic dermatitis and innate immunity | MASAYA MORIWAKI | Hiroshima University | Osamu Kaminuma | Hiroshima University | Conti. |
| Understanding the mechanism of cancer cachexia and the development of a comprehensive therapeutic exercise program | MIYAZAKI, Mitsunori | Hiroshima University | Keiji Tanimoto | Hiroshima University | Conti. |

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| Joint Research Title | Joint Researcher (Representative) | Affiliated Organization | Resident Researcher (Representative) | Affiliated Organization | New · Conti. |
|---|-----------------------------------|-------------------------|--------------------------------------|-------------------------|--------------|
| Pathophysiological role of CPP2 on CKD induced muscle wasting | Shohei Kohno | Hiroshima University | Keiji Tanimoto | Hiroshima University | New |
| Exploring the regulatory function of protein droplets formed through liquid-liquid phase separation (LLPS) in cells | Shin-ichi Tate | Hiroshima University | Satoshi Tashiro | Hiroshima University | Conti. |
| inducible gene expression system | Teruhisa Fujii | Hiroshima University | Satoshi Tashiro | Hiroshima University | Conti. |
| Analysis of transplantation and tumor antigen-specific immune response | OHDAN HIDEKI | Hiroshima University | Satoshi Tashiro | Hiroshima University | Conti. |
| Analysis of estrous cycle in common marmoset | Sotomaru Yusuke | Hiroshima University | Tatsuo Ichinohe | Hiroshima University | Conti. |
| Lung diaphragm protection strategy via modulation of spontaneous respiratory effort with partial neuromuscular blockade in ARDS | Shimatani Tatsutoshi | Hiroshima University | Tatsuo Ichinohe | Hiroshima University | New |
| Whole genome sequence of bronze loquat | Shinji Fukuda | Saga University | Kodai Kume | Hiroshima University | New |