

FY2024 Adopted Joint Usage/Research Projects (As of December 3, 2024)

| Joint Research Title  | Joint Researcher (Representative) | Affiliated Organization  | Resident Researcher (Representative) | Affiliated Organization | New. · Conti. |
|---|-----------------------------------|--|--------------------------------------|-------------------------|---------------|
| <b>【Projects responding to Fukushima Nuclear Power Plant accident】</b>  |                                   |  |                                      |                         |               |
| 1. Research on low-dose and low-dose rate radiation effects   |                                   |  |                                      |                         |               |
| 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.        |
| A study on radiation effects to the circulatory system of wild-type mice  | Nobuyuki Hamada                   | Central Research Institute of Electric Power Industry (CRIEPI) | Yukihito Higashi                     | Hiroshima University    | Conti.        |
| Role of tumor microenvironment in radiation-induced tumor   | Shimura Tsutomu                   | National Institute of Public Health                            | Megumi Sasatani                      | Hiroshima University    | Conti.        |
| Analysis of somatic mutation induction by using a hyper-sensitive system  | Tauchi Hiroshi                    | Ibaraki University   | 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.        |
| 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.        |
| Retaining of labels and DNA damage in rat mammary gland   | Tatsuhiko Imaoka                  | National Institutes for Quantum Science and Technology         | Keiji Suzuki                         | Nagasaki University     | Conti.        |
| Assessment of individual differences in radiosensitivity to low-dose-rate radiation using chromosomal aberrations                       | Masanori Tomita                   | Central Research Institute of Electric Power Industry          | Satoshi Tashiro                      | Hiroshima University    | New           |
| 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.        |
| Biological effects of low-dose/low-dose-rate exposure on stem cells   | IIZUKA DAISUKE                    | National Institutes for Quantum Science and Technology         | Megumi Sasatani                      | 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.        |
| Molecular pathogenesis of childhood and adolescent thyroid cancers  | Fumihiko Furuya                   | Fukushima Medical University                                   | Norisato Mitsutake                   | Nagasaki University     | New           |
| Simulation studies to reinforce the interpretation of the differences between results of animal experiments and epidemiological studies | Kazutaka Doi                      | National Institutes for Quantum Sciences 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 | Kazutaka Doi                      | National Institutes for Quantum Science and Technology               | Shinji Yoshinaga                     | Hiroshima University         | Conti.        |
| 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.        |
| Understanding of the impact of discharged wastewater to rainfall over Japan  | Kurita, Naoyuki                   | Nagoya University  | Hiroshi Yasuda                       | 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.        |
| Effect of X-rays on Amyloid $\beta$ -induced cell damage   | Shinsuke Katoh                    | Yokohama University of Pharmacy                                      | Yu Abe                               | Nagasaki University          | New           |
| 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.        |
| Factor analysis on the effects of radiation disasters on obesity in children in Fukushima Prefecture                   | Yugo Shobugawa                    | Niigata University   | Tetsuya Ohira                        | Fukushima Medical University | Conti.        |
| The investigation of relative biological effectiveness for continuous exposure to low concentration of tritium         | Taku Sato                         | Tohoku University  | Megumi Sasatani                      | Hiroshima University         | New           |
| Mechanisms of low-dose/low-dose-rate radiation-induced heart disease   | ZAHARIEVA Elena Karamfilova       | National Centre for Radiobiology and Radiation Protection (Bulgaria) | SASATANI Megumi                      | Hiroshima University         | New           |
| Regarding the Characteristics and Protection of Naturally Occurring Radioactive Material                               | Changting GUH                     | Graduate School of Frontier Sciences, The University of Tokyo        | Seiko Hirota                         | Hiroshima University         | New           |
| 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.        |
| 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.        |
| Effect of mesenchymal stem cells on radiation-induced tissue injury  | Nakashima Ayumu                   | Hiroshima University   | Yukihito Higashi                     | Hiroshima University         | New           |
| Understanding anisakiasis by combining phylogenetic and molecular immunology   | Maribet Gamboa                    | Universidad Catolica de la Santisima Concepcion                      | Osamu Kaminuma                       | Hiroshima University         | New           |

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| Evaluation of late effects of radiation exposure using human iPS cells  | Go Shioi                          | RIKEN Center for Developmental Dynamics Research | Hideaki Fujita                       | Hiroshima University    | New           |
| The effects of radiation on bone tissue-composed cells  | Takuma Matsubara                  | Kyushu Dental University                         | Osamu Kaminuma                       | Hiroshima University    | New           |
| Genetic basis of cancer susceptibility by radiation   | Tatsuo Miyamoto                   | Yamaguchi University                             | AKUTSU SILVIA NATSUKO                | Hiroshima University    | New           |
| Functional annotation of VUS in the radiosensitive gene   | Takao Hinoi                       | Hiroshima University Hospital                    | AKUTSU SILVIA NATSUKO                | Hiroshima University    | New           |
| Development and application of health risk mapping associated with external exposure to terrestrial gamma ray in Japan—development of measurement technique of terrestrial gamma ray— | Yasutaka Omori                    | Hirosaki University                              | Shinji Yoshinaga                     | Hiroshima University    | New           |
| Effects of low-dose irradiation on breast cancer cells  | Emi Tokuda                        | Fukushima Medical University                     | Kodai Kume                           | Hiroshima University    | New           |
| Development and application of health risk potential map associated with internal exposure to residential radon in Japan  | Masahiro Hosoda                   | Hirosaki University                              | Shinji Yoshinaga                     | Hiroshima University    | New           |
| Generation of transgenic fish strain for monitoring cellular responses to low-dose radiation  | Hayato Yokoi                      | Tohoku University                                | Yasuko Honjo                         | Hiroshima University    | New           |
| Effects of Low-Dose Radiation Exposure on the Hematopoietic Supportive and Tissue Regenerative Functions of Bone Marrow Mesenchymal Stromal/Stem Cells                                | Yasuo Miura                       | Fujita Health University School of Medicine      | Tatsuo Ichinohe                      | Hiroshima University    | New           |
| Effect of low-dose radiation form CT exposure   | Tsubokawa Norifumi                | Hiroshima University Hospital                    | Takahiro Mimae                       | Hiroshima University    | New           |

【Projects responding to Fukushima Nuclear Power Plant accident】

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

|   |                 |                               |                 |                      |        |
|---|-----------------|-------------------------------|-----------------|----------------------|--------|
| 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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3. Research and development of radiation-protective drugs

|   |                      |  |                  |                      |        |
|---|----------------------|--|------------------|----------------------|--------|
| Verification of the effect of cyclodextrin on reducing the absorption of radioactive iodine into the body   | Shogo Higaki         | The University of Tokyo                        | Kodai Nishi      | Nagasaki University  | Conti. |
| Phytochemical analysis of herbs for discovering radioprotectant   | Katsuyoshi Matsunami | Hiroshima University                           | Satoshi Tashiro  | Hiroshima 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. |
| Development of Radioprotective Agents Targeting Inflammatory Platforms  | Akinori Morita       | Tokushima University                           | Megumi Sasatani  | Hiroshima University | New    |
| Research on protective agents against radiation-induced gastrointestinal disorders  | Masanori Ito         | Hiroshima University Hospital                  | Yukihito Higashi | Hiroshima University | New    |
| Pre- and post-comparative study on radioprotective effects of Kampo medicines   | Akihiro Kawahara     | Hiroshima University Hospital                  | Satoshi Tashiro  | Hiroshima University | New    |
| Examination of diamond nanocrystals as a radioprotective agent  | Madoka Suzuki        | Osaka University                               | Hideaki Fujita   | Hiroshima University | New    |
| Targeting the Mitochondrial Radiation Response to Develop Radioprotective Agents  | Shimura Tsutomu      | National Institute of Public Health            | Megumi Sasatani  | Hiroshima University | New    |
| Evaluation of the radioprotective effects of polyphenolic compounds extracted from plants   | Asako J. Nakamura    | Ibaraki University                             | Megumi Sasatani  | Hiroshima University | New    |
| Radioprotective capacity of the iron-binding glycoprotein Lactoferrin   | Takahiro Fukazawa    | Ehime University                               | Keiji Tanimoto   | Hiroshima University | New    |

【Projects responding to Fukushima Nuclear Power Plant accident】

4. Research on risk communication regarding radiation disasters

|  |               |                                  |                 |                     |     |
|--|---------------|----------------------------------|-----------------|---------------------|-----|
| Clarification of the influence of thyroid stimulating hormone on vascular repair | Yuji Shimizu  | Osaka Institute of Public Health | Naomi Hayashida | Nagasaki University | New |
| Clarify the association between subclinical hypothyroidism and height loss       | Nagisa Sasaki | Osaka Institute of Public Health | Naomi Hayashida | Nagasaki University | New |

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| 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.        |
| Cohort Study on Long-term Group Living Conditions and Maintenance of Physical Ability of Affected Elderly People in Public Housing (Idobata Nagaya) in Soma Area after the 2011 Great Japan East Earthquake | Saito Hiroaki                     | Soma Central Hospital                                      | Masaharu Tsubokura                   | 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 | 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 | Conti.        |
| Research on the incidence and death of diseases and their distribution of evacuees and returnees after the Great East Japan Earthquake  | SUN ZHICHAO                       | Fukushima Medical University                               | 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.        |
| 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.        |
| Inhalation dose assessment of radon progeny in dwellings in Fukushima Prefecture  | Hayato Kikuchi                    | Hirosaki University  | Tetsuo ISHIKAWA                      | Fukushima Medical University | New           |
| Evaluating the Understandability and Actionability of Nuclear Disaster Prevention Materials in Japanese   | Shinya Ito                        | Kitasato University  | Kayoko Ishii                         | Fukushima Medical University | New           |
| Study of barriers to the prevention of suicidal risks in the territories affected by the disaster at the Chernobyl nuclear power plant  | Tamara Sharshakova                | Gomel State Medical University                             | Naomi Hayashida                      | Nagasaki University          | New           |
| Evaluation study of changes in physical, psychological, and social risk factors that influence health behavior  | Takahiro Tabuchi                  | Tohoku University Graduate School of Medicine              | Tetsuya Ohira                        | Fukushima Medical University | Conti.        |
| Study for searching radioprotector/radiosensitizer using plasmid DNA damage as indicator  | Katsunori Yogo                    | Nagoya University  | Hiroshi Yasuda                       | Hiroshima University         | Conti.        |
| Monitoring and analyses of the behavior of the air dose rates at the forestry edge along the border of Fukushima and Miyagi prefectures aiming to utilize Phits as the risk communication tool              | Shigeki HARADA                    | Fukushima University                                       | Seiko Hirota                         | Hiroshima University         | New           |

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| Ensuring the safety of patients with neurological diseases during radiation disaster situations          | Masahiro Nakamori                 | Hiroshima University Hospital | Kayoko Ishii                         | Fukushima Medical University | New           |
| Establishing Support for the Treatment of Neurological Disease Patients in Radiation Disaster Situations | Mai Kikumoto                      | Hiroshima University          | Naomi Hayashida                      | Nagasaki University          | New           |
| Questionnaire survey on medical treatment systems in the event of a radiation disaster                   | Tsubokawa Norifumi                | Hiroshima University Hospital | Takahiro Mimae                       | Hiroshima University         | New           |

【Other important projects】

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

|  |                   |  |                    |                      |        |
|--|-------------------|--|--------------------|----------------------|--------|
| Analysis of the role of histone H2AZ ubiquitination in the maintenance of Genome                       | Hirota Kouji      | 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. |
| The analysis for the endoplasmic reticulum function altered by cellular stress                         | Kazunori Imaizumi | Hiroshima University   | Akiko Nagamachi    | Hiroshima University | Conti. |
| Analysis of DNA damage response molecular expression as a prognostic predictor of oropharyngeal cancer | Hideaki Nishi     | Nagasaki University  | Masahiro Nakashima | Nagasaki University  | Conti. |
| Analysis of cellular function of polyubiquitinated PCNA  | Yuji Masuda       | Tokai National Higher Education and Research System, Nagoya University | Megumi Sasatani    | Hiroshima University | Conti. |
| Histone H3K36 methyltransferase functions in DNA repair  | Kiyoe URA         | Chiba University   | Satoshi Tashiro    | Hiroshima University | Conti. |
| Detection of mutational signatures in the cancer tissue of Nagasaki atomic bomb survivors              | Yuko Akazawa      | Nagasaki University Graduate School of Biomedical Sciences             | Masahiro Nakashima | 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. |
| Regulation of chromatin structures involved in repair of UV-induced DNA damage                         | Kaoru Sugawara    | Kobe University  | Satoshi Tashiro    | Hiroshima University | Conti. |
| Analysis of the Relationship between PFAS Sensitivity and DNA repair pathway                           | Toshiyuki Habu    | Mukogawa Women's University  | Megumi Sasatani    | Hiroshima University | New    |

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| Role of NBS1 protein in cellular responses to ionizing radiation   | Tauchi Hiroshi                    | Ibaraki University   | Shinya Matsuura                      | Hiroshima University    | Conti.        |
| Time-lapse analysis of nuclear factors involved in DNA   | Ken-ichi Yano                     | Kumamoto University  | Keiji Suzuki                         | Nagasaki University     | Conti.        |
| Studies on Bleomycin-induced EBV-positive cancer selective cell death  | Hisashi Iizasa                    | Shimane University   | Shinya Matsuura                      | Hiroshima University    | New           |
| Role of DNA damage response in Metabolic dysfunction associated fatty liver disease  | yuko akazawa                      | Nagasaki University Graduate School of Biomedical Sciences | Masahiro Nakashima                   | Nagasaki University     | Conti.        |
| Roles of epigenomic modification on DNA damage response under hypoxic conditions   | Eisaburo Sueoka                   | Saga University  | Keiji Tanimoto                       | Hiroshima 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.        |
| Roles of the hypoxia-inducible factor- $\alpha$ in radiation sensitivity   | Yuichi Makino                     | Asahikawa Medical University                               | Keiji Tanimoto                       | Hiroshima University    | Conti.        |
| Mechanisms of DNA damage responses in hypoxic cancer cells   | Hidetaka Eguchi                   | Juntendo University  | Keiji Tanimoto                       | Hiroshima University    | Conti.        |
| Transcriptome analyses of radiation responses in hypoxia by using public database  | Hiromasa Ono                      | Research Organization of Information and Systems           | Keiji Tanimoto                       | Hiroshima University    | Conti.        |
| Molecular mechanisms of DNA damage repair in the pathogenesis of cardiovascular diseases                                   | Mari Ishida                       | Hiroshima University                                       | Satoshi Tashiro                      | Hiroshima University    | Conti.        |
| Elucidation of the mechanism underlying DSB repair pathway choice after ionizing radiation                                 | Atsushi Shibata                   | Keio University Faculty of Pharmacy                        | Keiji Suzuki                         | Nagasaki University     | New           |
| Analysis of DNA double strand break repair in the presence of inflammatory cytokines.                                      | Mayu Isono                        | Keio University  | Keiji Suzuki                         | Nagasaki University     | New           |
| Role of XRCC3 polymorphism in pathogenesis and progression of cardiac hypertrophy  | Chiemi Sakai                      | Hiroshima University                                       | Satoshi Tashiro                      | Hiroshima University    | Conti.        |
| The involvement of dimethylation of histone H3K36 induced by DDR in the development and progression of human liver disease | Yasuaki Shibata                   | Nagasaki University Graduate School of Biomedical Sciences | Masahiro Nakashima                   | Nagasaki University     | New           |

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| 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.        |
| Interaction between nuclear DNA damage and mitochondrial DNA damage   | Mari Ishida                       | Hiroshima University                                | Satoshi Tashiro                      | Hiroshima University    | Conti.        |
| Mechanism of generation of dicentric chromosomes in irradiated Ligase4 deficient mouse fibroblasts.             | Shiraishi Kazunori                | OSAKA Metropolitan University                       | Megumi Sasatani                      | Hiroshima University    | New           |
| Analysis of the molecular mechanism of the genomic instability in carcinogenesis                                | Tomoko Ishikawa-Fujiwara          | Osaka University                                    | Megumi Sasatani                      | Hiroshima University    | Conti.        |
| Novel responsible genes of diseases with genomic instability around the Chernobyl area                          | Tomoo Ogi                         | Tokai National Higher Education and Research System | Norisato Mitsutake                   | Nagasaki University     | Conti.        |
| Disruption mechanism of DSB-dependent chromatin regulation in response to decreased UBE3B expression            | Maiko Okada                       | Tokyo University of Technology                      | Keiji Suzuki                         | Nagasaki University     | Conti.        |
| Analysis of the mechanisms involved in radiosentitivity of malignant glioma cells                               | Seiji Hama                        | Hiroshima University                                | Shinya Matsuura                      | Hiroshima University    | Conti.        |
| Hypoxia signal and DNA damage response in aging   | Bhawal Ujjal                      | Nihon University                                    | Keiji Tanimoto                       | Hiroshima University    | New           |
| Effects of radiation on development and aging in zebrafish  | Hiroshi Hirata                    | Aoyama Gakuin University                            | Yasuko Honjo                         | Hiroshima University    | Conti.        |
| Analysis of genomic instability in breast cancer carcinogenesis by 53BP1 expression                             | Ryota Otsubo                      | Nagasaki University Hospital                        | Katsuya Matsuda                      | Nagasaki University     | Conti.        |
| The role of TIP60 histone acetyltransferase complex in radiation-induced DNA damage response                    | Tsuyoshi Ikura                    | Kyoto University                                    | Satoshi Tashiro                      | Hiroshima University    | Conti.        |
| Analysis of cellular strategy of autophagy-dependent cancer cell growth   | Kanji FURUYA                      | Kyoto University                                    | Yasuko Honjo                         | Hiroshima University    | Conti.        |
| Molecular pathologic characteristics of benign thyroid nodules showing nodule in nodule morphology              | Mayu Ueda                         | Nagasaki University                                 | Katsuya Matsuda                      | Nagasaki University     | Conti.        |
| DNA damage induced by occupational exposure of medical workers  | Fukamoto Wataru                   | Hiroshima University                                | Satoshi Tashiro                      | Nagasaki University     | New           |



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【Other important projects】

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

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|---|--------------------|--|-----------------|----------------------|--------|
| The effect of low-dose irradiation on the functions of tumor-associated macrophages   | Shotaro Nakajima   | Fukushima Medical University   | Osamu Kaminuma  | Hiroshima University | Conti. |
| Genomic and epigenomic analysis of hematological malignancies   | Hiroataka Matsui   | National Cancer Center Hospital  | Akiko Nagamachi | Hiroshima University | Conti. |
| Radiation exposure and the resulting risk of genomic destabilization  | Yoshioka, Ken-ichi | National Cancer Center Research Institute  | Satoshi Tashiro | 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. |
| Signature analysis of ionizing radiation-induced somatic mutations in hematopoietic stem cells  | Yukiko Matsuda     | Radiation Effects Research Foundation  | 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. |
| Effects of oxidative stress response on ionizing radiation-induced murine leukemogenesis  | Osamu Tanabe       | Radiation Effects Research Foundation  | Satoshi Tashiro | Hiroshima University | New    |
| Elucidation of molecular mechanism of ATM-activation by metformin   | Tomoyuki Hamamoto  | Showa Pharmaceutical University  | Keiji Suzuki    | Nagasaki University  | Conti. |
| Genomic mutation analysis of radiation-induced mouse hepatocellular carcinoma   | Yi SHANG           | Quantum Life and Medical Science Directorate, National Institutes for Quantum Science and Technology | Keiji Suzuki    | Nagasaki University  | Conti. |
| Histopathological analysis in the carcinogenic processes on radiation-induced intestinal tumor  | Morioka Takamitsu  | National Institutes for Quantum Science and Technology   | Megumi Sasatani | 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. |
| 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. |

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| Elucidation of the mechanism of radiation-induced hepatocarcinogenesis  | Morioka Takamitsu                 | National Institutes for Quantum Science and Technology                             | Keiji Suzuki                         | Nagasaki University     | Conti.        |
| Identification of radiation-associated signaling pathways based on the quantification of radiation stress responses in cultured cells   | Masataka Taga                     | Radiation Effects Research Foundation  | Megumi Sasatani                      | Hiroshima University    | New           |
| Molecular mechanisms of radio-resistance in thyroid cancers   | Aya Tanaka                        | Nagasaki University  | Norisato Mitsutake                   | 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    | Conti.        |
| Development of an anticancer drug screening method targeting error-prone repair pathways activated in cancer cells after irradiation  | Kohzaki Masaoki                   | University of Occupational and Environmental Health, Japan                         | Keiji Suzuki                         | Nagasaki 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    | 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.        |
| Genomic and epigenomic analysis for risk assessment of low-dose and low-dose-rate radiation carcinogenesis  | Chizuru Tsuruoka                  | National Institutes for Quantum Science and Technology                             | Megumi Sasatani                      | Hiroshima 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.        |
| Mathematical model for understanding of the early onset hypothesis and the accumulated transition carcinogenesis.   | Isao Kawaguchi                    | National Institutes for Quantum Science and Technology                             | Yoshinaga Shinji                     | Hiroshima University    | New           |
| 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.        |
| Long-term control of glioma stem cell population recurrence by radiation and splicing inhibition  | MICHIYA SUGIMORI                  | University of Toyama   | Norisato Mitsutake                   | Nagasaki University     | New           |
| Molecular patterns and clinical implications of KRAS, NRAS, BRAF and TERT promoter mutations in colorectal cancer from patients who lived in contaminated by radionuclides and non-contaminated areas of the Republic of Kazakhstan | Saule Rakhimova                   | Center for Life Sciences, PI National Laboratory Astana, AOE Nazarbayev University | Vladimir Saenko                      | Nagasaki University     | New           |
| Analysis of myelodysplastic syndromes/myeloproliferative disorders in atomic bomb survivors   | Daisuke Imanishi                  | Nagasaki Goto Chuoh Hospital   | Yasushi Miyazaki                     | Nagasaki University     | Conti.        |

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| Joint Research Title   | Joint Researcher (Representative) | Affiliated Organization                                    | Resident Researcher (Representative) | Affiliated Organization | New. · Conti. |
|--|-----------------------------------|--|--------------------------------------|-------------------------|---------------|
| Analysis of immune-associated gene expression following ionizing radiation in human tumor organoids  | Ken Okuda                         | Keio University Graduate School of Pharmaceutical Sciences | Keiji Suzuki                         | Nagasaki University     | New           |
| Analysis of immune-associated gene expression after ionizing radiation   | Shunji Haruna                     | Keio University Graduate School of Pharmaceutical Sciences | Keiji Suzuki                         | Nagasaki University     | New           |
| Research on mechanisms of radiation carcinogenesis and development of cancer treatment   | Yong Chai                         | Jiangxi Provincial Children's Hospital                     | Tao-Sheng Li                         | Nagasaki University     | New           |
| 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.        |
| Study on macrophage mediated radioresistance in cancer cells   | Nakata Yuichiro                   | Graduate school of Medicine, Chiba University              | Osamu Kaminuma                       | Hiroshima University    | New           |
| Examination for the enhanced effect of tumor suppression on senesced pancreatic cancer cells by combination of anti-cancer and targeted drugs      | Nishimoto Arata                   | Sanyo-Onoda City University                                | Tao-Sheng Li                         | Nagasaki University     | New           |
| Mechanisms of cancer immune surveillance in Radiation Carcinogenesis   | Yun Guo                           | Hiroshima University                                       | Megumi Sasatani                      | Hiroshima University    | Conti.        |
| Comprehensive understanding of host immune surveillance to develop innovative cancer therapies   | Yasuda Tomoharu                   | Hiroshima University                                       | Osamu Kaminuma                       | Hiroshima University    | New           |
| 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     | Conti.        |
| Gene mutation analysis study in basal cell carcinoma   | Kazumitsu Sugiura                 | Fujita Health University                                   | Osamu Kaminuma                       | Hiroshima University    | Conti.        |
| Study of ultraviolet (U.V.) exposed induced senescence in HCE-T cells  | Wang Duo                          | University of Occupational and Environmental Health, Japan | Keiji Suzuki                         | Nagasaki University     | Conti.        |
| Development of novel cancer therapeutics focusing on cellular response to DNA replication stress   | Kimiyoshi Yano                    | Hiroshima University                                       | Satoshi Tashiro                      | Hiroshima University    | New           |

【Other important projects】

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

|   |               |                     |               |                     |     |
|---|---------------|---------------------|---------------|---------------------|-----|
| Influence of type of anthropomorphic phantom on the calibration of whole-body counter | Yuki Tamakuma | Nagasaki University | Sumi Yokoyama | Nagasaki University | New |
|---|---------------|---------------------|---------------|---------------------|-----|

FY2024 Adopted Joint Usage/Research Projects (As of December 3, 2024)

| Joint Research Title  | Joint Researcher (Representative) | Affiliated Organization                                    | Resident Researcher (Representative) | Affiliated Organization | New · Conti. |
|---|-----------------------------------|--|--------------------------------------|-------------------------|--------------|
| Analyses of mechanisms underlying lung fibrosis, and search for target molecules for drug development                     | Takeshi Nabe                      | Setsunan University  | Osamu Kaminuma                       | Hiroshima University    | Conti.       |
| Dose estimation for cattle affected by the nuclear accident using nondestructive electron spin resonance                  | YAMAGUCHI Ichiro                  | National Institute of Public Health                        | Hiroshi Yasuda                       | Hiroshima University    | Conti.       |
| 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.       |
| Establishment of a tailor-made exposure control evaluation method based on individual assessment of radiation sensitivity | RYUJI OKAZAKI                     | University of Occupational and Environmental Health, Japan | Keiji Suzuki                         | Nagasaki University     | New          |
| Analysis of stress responsive substances induced by cerebral ischemia   | Sakai Norio                       | Hiroshima University                                       | Satoshi Tashiro                      | Hiroshima University    | Conti.       |
| Nail dosimetry using EPR(Electron Paramagnetic Resonance)   | Minoru Miyake                     | Kagawa University  | Hiroshi Yasuda                       | Hiroshima University    | New          |

【Other important projects】

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

|   |                 |  |                  |                      |        |
|---|-----------------|--|------------------|----------------------|--------|
| Regenerative medicine in cardiovascular diseases  | Kajikawa Masato | Hiroshima University Hospital          | Yukihito Higashi | Hiroshima University | Conti. |
| Elucidating the role of T cell repertoire variation in disease pathogenesis   | Inoue Kimiko    | Bioresource Research Center, RIKEN     | Osamu Kaminuma   | Hiroshima University | Conti. |
| Analysis of the function of cardiac muscle cells  | Chikara Goto    | Hiroshima International University     | Yukihito Higashi | Hiroshima University | Conti. |
| Analysis of inflammatory responses induced by necrotic cells  | Kisaburo NAGATA | Toho University                        | Osamu Kaminuma   | 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. |
| Basic research on regenerative medicine approaches to improve radiation treatment                                     | Shouhua Zhang   | Jiangxi Provincial Children's Hospital | Tao-Sheng Li     | Nagasaki University  | New    |

FY2024 Adopted Joint Usage/Research Projects (As of December 3, 2024)

| Joint Research Title   | Joint Researcher (Representative) | Affiliated Organization  | Resident Researcher (Representative) | Affiliated Organization | New. · Conti. |
|--|-----------------------------------|--------------------------|--------------------------------------|-------------------------|---------------|
| Investigation of the preventive effect of radiation pneumonitis by staniocalcin-1                  | Masahiko Kanehira                 | Yamanashi University     | Osamu Kaminuma                       | Hiroshima University    | New           |
| Research on the function and mechanism of cardiomyocyte physiology                                 | Masafumi Takahashi                | Jichi Medical University | Yukihito Higashi                     | Hiroshima University    | Conti.        |
| 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    | Conti.        |

【Other important projects】

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

|   |                    |   |                  |                              |        |
|---|--------------------|---|------------------|------------------------------|--------|
| Association of radiation exposure with atherosclerosis and cardiovascular disease among atomic bomb survivors                   | Nobuo Sasaki       | 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          | Conti. |
| 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. |
| Relationship between dietary patterns after radiation disasters and future mental distress: Fukushima Prefectural Health Survey | Junko Yoshida      | Fukuyama University   | Tetsuya Ohira    | Fukushima Medical University | Conti. |
| Effects of Radiation Exposure on Kidney   | Nishiyama Akira    | Kagawa University   | Yukihito Higashi | Hiroshima 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. |
| Methodology for evaluating surface collection efficiency of filters used for ambient radioactive aerosols                       | Manaya Taoka       | Hirosaki University   | Tetsuo ISHIKAWA  | Fukushima Medical University | New    |
| The effects of post-disaster lifestyle changes on the results of health checkups among children and adolescents                 | Yamagishi Kazumasa | Juntendo University Graduate School of Medicine                                   | 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         | Conti. |

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| Joint Research Title   | Joint Researcher (Representative) | Affiliated Organization                                       | Resident Researcher (Representative) | Affiliated Organization      | New. · Conti. |
|--|-----------------------------------|---|--------------------------------------|------------------------------|---------------|
| Long-term trend of the subjective health: the Fukushima health management survey   | Nagai Masato                      | Iwate Medical University                                      | 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.        |
| Improvement of the empirical formula for radon exhalation rate from soil surface in creating a lung cancer risk potential map due to radon inhalation  | Rui Kudo                          | Hirosaki 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.        |
| 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.        |
| 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                      | Graduate School of Medicine, Osaka University                 | Seiji Yasumura                       | Fukushima Medical University | Conti.        |
| Radon Dynamics in Outdoor Environment - Study on Influence Factors on Radon Exhalation Rate from Soil and Accumulation Chamber Technique   | Qianhao JIN                       | Graduate School of Frontier Sciences, The University of Tokyo | Tetsuo Ishikawa                      | Fukushima Medical University | New           |
| Difference in Mortality Trends among the elderly by whether they evacuated after the Great East Japan Earthquake   | Yuta Inoue                        | Osaka University  | Seiji Yasumura                       | Fukushima Medical University | Conti.        |
| Association between sleep state and mental health state among elementary school children   | Takeshi Tanigawa                  | Juntendo University Graduate School of Medicine               | Tetsuya Ohira                        | Fukushima Medical University | Conti.        |
| Analysis of the effects of Pb-210 and Po-210 ingested through food on the incidence of human cancer  | Cai Yu                            | The University of Tokyo                                       | Yoshinaga Shinji                     | Hiroshima University         | Conti         |

【Other important projects】

6.Application of radioisotopes to medical diagnosis and treatment

|  |                |                     |                    |                              |        |
|--|----------------|---------------------|--------------------|------------------------------|--------|
| Development of novel radiotheranostics methods targeting tumor hypoxia             | Yoichi Shimizu | Kyoto University    | ZHAO Songji        | Fukushima Medical University | Conti. |
| Development of probes for radiotheranostics containing alpha emitter radionuclides | Kazuma Ogawa   | Kanazawa University | Kazuhiro Takahashi | Fukushima Medical University | Conti. |

FY2024 Adopted Joint Usage/Research Projects (As of December 3, 2024)

| Joint Research Title  | Joint Researcher (Representative) | Affiliated Organization                                    | Resident Researcher (Representative) | Affiliated Organization      | New. · 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.        |
| 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 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 | Conti.        |
| Attempts to treat medical radioactive wasteliquid without relying on drainage equipment   | Masahiro HIROTA                   | Shinshu university   | Kodai Nishi                          | Nagasaki University          | New           |
| Development of 211At radiolabeling reaction via aryl boronic acid or ester precursor and its application to radio-theranostics probes         | Hiroyuki Kimura                   | Kanazawa University  | Kazuhiro Takahashi                   | Fukushima Medical University | Conti.        |
| Development of a targeted theranostics platform using 211At   | Hiroyuki Nakamura                 | Tokyo Institute of Technology                              | 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.        |
| Development of radiotheranostic probes using cancer-specific metabolic mechanisms   | Masato Kobayashi                  | Kanazawa University  | Kohshin Washiyama                    | Fukushima Medical University | New           |
| Elucidating the pathogenesis of hematological malignancy via DNA damage and oxidative stress and development of novel therapy                 | Hiroki Goto                       | Kumamoto University  | Koki Hasegawa                        | Fukushima Medical University | New           |
| Evaluation of radiopharmaceutical accumulation in Streptococcus pyogenes in imaging of bacterial infections.                                  | Asuka Mizutani                    | Kanazawa University  | Kodai Nishi                          | Nagasaki University          | New           |
| Validation of dosimetry analysis using scintigraphy and correlation with renal toxicity of Lu-177-DOTATATE therapy in neuroendocrine neoplasm | Kosuke Yamashita                  | Kumamoto University  | Kenta Miwa                           | Fukushima Medical University | Conti.        |
| Establish of analysys method in the original phantom for tau PET imaging  | Kei Wagatsuma                     | Kitasato University  | Kenta Miwa                           | Fukushima Medical University | Conti.        |
| Phantom development for 18F-labelled myocardial perfusion imaging tracer  | Koichi Okuda                      | Hirosaki University Graduate School of Health Sciences     | Naoyuki Ukon                         | Fukushima Medical University | New           |

FY2024 Adopted Joint Usage/Research Projects (As of December 3, 2024)

| Joint Research Title | Joint Researcher (Representative) | Affiliated Organization | Resident Researcher (Representative) | Affiliated Organization | New. · Conti. |
|----------------------|-----------------------------------|-------------------------|--------------------------------------|-------------------------|---------------|
|----------------------|-----------------------------------|-------------------------|--------------------------------------|-------------------------|---------------|

【Other important projects】

7. Medical radiation research

|   |                   |  |                  |                              |        |
|---|-------------------|--|------------------|------------------------------|--------|
| Development of treatment to overcome radioresistance and inhibit radiation pneumonitis in non-small cell lung cancer            | Noboru Hattori    | Hiroshima University Graduate School of Biomedical and Health Sciences | Yoshihiro Miyata | Hiroshima University         | New    |
| Protective effect of p53 regulators against intestinal damage after multiple-dose irradiation                                   | Yuichi Nishiyama  | Tokushima University   | Megumi Sasatani  | Hiroshima University         | Conti. |
| Development of novel radiosensitizing therapy for malignant brain tumors using photosensitizer precursor; 5-aminolevulinic acid | Mishima Kazuhiko  | Saitama Medical University   | Osamu Kaminuma   | Hiroshima University         | Conti. |
| Relationship between radiation information and communication style needed by medical professional students                      | Mitsuyo Ito       | Shizuoka College of Medical Science                                    | Sumi Yokoyama    | Nagasaki University          | New    |
| Evaluation of the Effectiveness of Radiation Protective Gloves in Reducing Orthopedic Surgeons' Hand Exposure                   | Keisuke Nagamoto  | University of Occupational and Environmental Health, Japan             | Satoshi Tashiro  | Hiroshima University         | New    |
| Research on the mechanism of radiation-induced taste disorders  | Masaru Konishi    | Hiroshima University Hospital  | Shinya Matsuura  | Hiroshima University         | Conti. |
| Assessment of DNA damage repair responses after heavy-ion radiation exposure  | Asako J. Nakamura | Ibaraki University   | Keiji Suzuki     | Nagasaki University          | Conti. |
| Study on the Optimization of Dose and Image Quality in Simple Radiography Due to Differences in Radiation Quality               | Yoshiaki Hirofuji | Fukushima Medical University   | Takashi Ooba     | Fukushima Medical University | New    |
| Effects of phytoestrogens on radiation response in hypoxic cancer cells   | Takako Sakamoto   | Jichi Medical University   | Keiji Tanimoto   | Hiroshima University         | Conti. |
| Radiation effect of lymphatic epithelial cells  | Ogawa, Keiko      | Hiroshima University Hospital  | Yukihito Higashi | Hiroshima University         | New    |

【Open-topic projects】

|   |                   |                      |                  |                      |        |
|---|-------------------|----------------------|------------------|----------------------|--------|
| Investigation of the pathophysiology for hereditary neurological diseases | Masahiro Nakamori | Hiroshima University | Kodai Kume       | Hiroshima University | Conti. |
| Neural basis of adaptive behaviors coping stress                          | Hidenori Aizawa   | Hiroshima University | Hideshi Kawakami | Hiroshima University | New    |



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| Joint Research Title  | Joint Researcher (Representative) | Affiliated Organization   | Resident Researcher (Representative) | Affiliated Organization | New · Conti. |
|---|-----------------------------------|---|--------------------------------------|-------------------------|--------------|
| Analysis of the interaction between BMP/Smad and TNF $\alpha$ -induced inflammatory signals.  | Hirata Tsuchiya Shizu             | Hiroshima University  | Akiko Nagamachi                      | 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    | Conti.       |
| Search for novel therapeutic targets for knee osteoarthritis  | Morioka Norimitsu                 | Hiroshima University, Graduate School of Biomedical and Health Sciences | Keiji Tanimoto                       | 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 mesenchymal stem cells for psoriasis  | Ryohei Ogino                      | Hiroshima University  | Keiji Tanimoto                       | Hiroshima University    | Conti.       |
| Mechanism of novel compounds breaking the resistance of Pseudomonas aeruginosa to antimicrobial agents and effective use of existing antimicrobial agents | HIDEKI FUJII                      | Keio University   | Osamu Kaminuma                       | Hiroshima University    | New          |
| Elucidation of the mechanism of immune response regulation by exercise  | Daisuke Shiiba                    | Kurashiki University of Science and the Arts                            | 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    | Conti.       |
| Analysis of the role of innate lymphoid cell in pulmonary arterial hypertension   | Susumu Nakae                      | Hiroshima University  | Tatsuo Ichinohe                      | Hiroshima University    | Conti.       |
| Development of genome-editing technology useful for creating mouse models to analyze the effects of radiation   | Aoto Kazushi                      | Hiroshima university  | Osamu Kaminuma                       | Hiroshima University    | New          |
| Effect of antibiotic and hormonal therapy on intrauterine microbial colonization in endometriosis   | Khaleque Khan                     | Kyoto Prefectural University of Medicine                                | Masahiro Nakashima                   | Nagasaki University     | Conti.       |
| Whole genome sequencing of amphibians having undergone remarkable adaptive evolution  | Takeshi Igawa                     | Hiroshima University  | Hideshi Kawakami                     | Hiroshima University    | Conti.       |
| 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.       |
| Functional analysis of primary cilia using knockout cells   | Koji Ikegami                      | Hiroshima University  | Hideshi Kawakami                     | Hiroshima University    | Conti.       |

## FY2024 Adopted Joint Usage/Research Projects (As of December 3, 2024)

| Joint Research Title   | Joint Researcher (Representative) | Affiliated Organization  | Resident Researcher (Representative) | Affiliated Organization | New. · Conti. |
|--|-----------------------------------|--|--------------------------------------|-------------------------|---------------|
| Neuroprotective effects of ROCK inhibitors on retinal ganglion cells   | Ayaka Edo                         | Hiroshima University Graduate School of Biomedical and Health Sciences | Satoshi Tashiro                      | Hiroshima 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     | Conti.        |
| Exploration of genetic causes of biparental placental mesenchymal dysplasia  | Hideobu Soejima                   | Saga University  | Koichiro Yoshiura                    | Nagasaki University     | New           |
| Analysis of Staphylococcus aureus derived from atopic dermatitis and innate immunity   | msasaya moriwaki                  | Hiroshima University   | Osamu Kaminuma                       | Hiroshima University    | Conti.        |
| Elucidation of the mechanisms of environmental chemical toxicity and disease pathogenesis focusing on morphological and functional changes in organelles                                 | Masatsugu Miyara                  | Hiroshima University   | Nariaki Fujimoto                     | Hiroshima University    | New           |
| Prolyl isomerase are committed to the onset of both cancer and metabolic syndromes   | Nakatsu Yusuke                    | Hiroshima university   | Akiko Nagamachi                      | Hiroshima University    | Conti.        |
| Analysis of genes involved in the development of neuroblastoma   | Kanda Akifumi                     | Hiroshima University   | Keiji Tanimoto                       | Hiroshima University    | New           |
| Elucidation of intramyocardial calcium dynamics in A kinase anchor protein mutants   | Yukiko Nakano                     | Hiroshima University   | Satoshi Tashiro                      | Hiroshima University    | Conti.        |
| Understanding the mechanism of cancer cachexia and the development of a comprehensive therapeutic exercise program   | Mitsunori Miyazaki                | Hiroshima University   | Keiji Tanimoto                       | Hiroshima University    | Conti.        |
| Functional analysis of calsequestrin mutant protein  | Yuko Noda                         | Hiroshima University   | Yukihito Higashi                     | Hiroshima University    | New           |
| Elucidation of epigenetic regulation for brown fat development   | Haruya Ohno                       | Hiroshima University   | Tatsuya Maruhashi                    | Hiroshima University    | Conti.        |
| Unveiling the treatment resistance of pediatric solid tumor by using circulating tumor cells   | Masato Kojima                     | Hiroshima University   | Keiji Tanimoto                       | Hiroshima University    | New           |
| Kinetic analysis of LAT1 expression and mTOR activation in ovarian cancer  | Kosuke Nakamoto                   | Hiroshima University   | Hideshi Kawakami                     | Hiroshima University    | Conti.        |
| Analysis of transplantation and tumor antigen-specific immune response   | Hideki Ohdan                      | Hiroshima University   | Satoshi Tashiro                      | Hiroshima University    | Conti.        |

FY2024 Adopted Joint Usage/Research Projects ( As of December 3, 2024 )

| Joint Research Title  | Joint Researcher (Representative) | Affiliated Organization       | Resident Researcher (Representative) | Affiliated Organization      | New. · Conti. |
|---|-----------------------------------|-------------------------------|--------------------------------------|------------------------------|---------------|
| Lung diaphragm protection strategy via modulation of spontaneous respiratory effort with partial neuromuscular blockade in ARDS | Tatsutoshi Shimatani              | Hiroshima University          | Satoshi Tashiro                      | Hiroshima University         | Conti.        |
| inducible gene expression system  | Teruhisa Fujii                    | Hiroshima University          | Satoshi Tashiro                      | Hiroshima University         | Conti.        |
| The analysis of cancer genome and circulation tumor DNA for gastrointestinal cancer   | Yuji Urabe                        | Hiroshima University          | Akiko Nagamachi                      | Hiroshima University         | Conti.        |
| The evaluation of materials to avoid the spread of volatile radionuclides such as At-211, an alpha particle emitter             | Anri Inaki                        | National Cancer Center        | Kohshin Washiyama                    | Fukushima Medical University | New           |
| Functional screening of metabolites produced by plant derived lactic acid bacteria  | Sugiyama Masanori                 | Hiroshima University          | Keiji Tanimoto                       | Hiroshima University         | Conti.        |
| Immunomodulatory Properties of Mesenchymal Stromal Cells Incorporated in Collagen Hydrogel                                      | Koichi Kato                       | Hiroshima University          | Tatsuo Ichinohe                      | Hiroshima University         | Conti.        |
| Create animal models that can capture the hair cycle with high accuracy   | Shoichiro Kokabu                  | Kyushu Dental University      | Osamu Kaminuma                       | Hiroshima University         | New           |
| Establishment of bone density evaluation method using a novel bone cutting drill  | Reiko Kobatake                    | Hiroshima University          | Tatsuo Ichinohe                      | Hiroshima University         | New           |
| influences of dam exercise on metabolism in offspring   | Fujita Naoto                      | Hiroshima University          | Keiji Tanimoto                       | Hiroshima University         | New           |
| De novo Whole-Genome Assembly of Achillea ptarmica Reveals the Characteristics of carotenoid cleavage dioxygenase gene(CCD4a)   | Dong Qin                          | Hiroshima University          | Kodai Kume                           | Hiroshima University         | New           |
| Molecular Basis for Advancing Radiation Medical Science Using Model Cells/Animals   | Takuya IMAMURA                    | Hiroshima University          | Kento Miura                          | Hiroshima University         | New           |
| The investigation of the novel uremic toxin related to the life prognosis for the dialysis patients                             | Yosuke Osaki                      | Hiroshima University Hospital | Tatsuo Ichinohe                      | Hiroshima University         | New           |
| Department of Fisheries, Faculty of Agriculture   | Teuyoshi Tanaka                   | Kindai University             | Tatsuo Ichinohe                      | Hiroshima University         | New           |