

Call for applications: 2021 Joint Usage and Joint Research Programs, Institute of Advanced Medical Sciences, Tokushima University

21st December 2020

Tokushima University, also known as University of Tokushima, has a long history of advanced medical sciences. Miyoshi muscular dystrophy and adjuvant disease were discovered here. Immunoproteasomes, hepatocyte growth factor, and cathepsin L as well as many other disease-related human molecules have their home in our campus. In 1961, the medical school of Tokushima University founded three laboratories of enzyme research, which successfully formed Institute for Enzyme Research in 1987. In 1998, Institute for Genome Research was founded to extend medical research to focus on genome functions. In 2010, Diabetes Therapeutics and Research Center was formed to overcome the diabetes by creating platform for the collaborations between clinical and basic researchers. In 2013, Fujii Memorial Institute of Medical Sciences was founded in memory of Professor Setsuro Fujii, one of the founding professors of original enzyme research laboratories. In 2016, the University has decided to merge these four institutes to form the Institute of Advanced Medical Sciences, in order to facilitate multi-disciplinary and trans-omic studies for advanced medical sciences.

Supported by the Joint Usage and Joint Research Programs of the MEXT, Japan, the Institute of Advanced Medical Sciences, Tokushima University, calls for the applications for the joint usage and/or joint research as follows. The proposed expenses should be used within the fiscal year 2021 which begins on 1st April 2021 and ends on 31st March 2022.

(A) Joint Usage

State-of-art research facility of our Institute is open for the support of the research in the following 4 aspects. Up to 500,000 Japanese yens per successful proposal per fiscal year will be supported for the following experiments.

A-1. Next-generation sequencing and microarray analyses (organized by Professor Toyomasa Katagiri)

Next-generation sequencing analysis using NextSeq550 (illumine). Representative costs are 775,000 yens per sample for whole human genome sequencing. 201,000 yens (Mid) or 489,000 yens (High) per run (2-12 samples) for whole human exon analysis (PE 75bp), 314,000 yens (Mid) or 775,000yens (High) per run (3-12 samples) for whole human exon

analysis (PE 100-150bp). 201,000 yens (Mid) or 489,000yens (High) per run (5-16 samples) for total human RNA-seq analysis (PE 75bp), 201,000 yens (Mid) or 263,000yens (High)) per run (13-40 samples) for RNA-seq expression analysis (PE 75bp). 201,000 yens (Mid) or 489,000yens (High) per run (8-26 samples) for ChIP-seq analysis of transcription factors (SR 50bp), 201,000 yens (Mid) or 489,000 yens (High) per run (3-10 samples) for ChIP-seq analysis of histone modifications (PE 50bp), and 45,000 yens per sample for Agilent human microarray analysis (Each cost is estimated as present value (2020.11)). NextSeq 550 System enables array scanning for Infinium methylation EPIC, HumanKaryomap and CytoSNP Chip. Analysis of human samples requires approval from each institution committee regarding human genome and gene analysis research ethics. CLC genomics workbench (Qiagen) is available in each analysis.

Please contact Professor Katagiri for details (tkatagi@genome.tokushima-u.ac.jp). Human sample analyses require the prior approval from appropriate intramural committee of the applicant's affiliated organization.

A-2. Proteome analysis (organized by Professor Hidetaka Kosako)

Proteome analysis using high resolution mass spectrometers (Orbitrap Fusion and Q Exactive Plus, Thermo Fisher Scientific). Proteome Discoverer, BioPharma Finder, Mascot, Scaffold, Pinpoint can be used for data analysis. Representative costs are 15,000 yen per sample for identification and quantitation of proteins from electrophoresed gel fragments or immunoprecipitates, 20,000 to 30,000 yen per sample for identification and quantitation of PTMs such as phosphorylation and ubiquitination of proteins, 15,000 to 30,000 yen per sample for global identification and quantitation (by TMT labeling, PRM, and LFQ) of proteins and PTM sites in complex samples such as cell lysates. Please contact Professor Kosako for details (kosako@tokushima-u.ac.jp). Human sample analysis requires the prior approval from appropriate intramural committee.

A-3. Genome editing of laboratory mice (organized by Professor Tatsuya Takemoto)

Generation of genetically modified mice by an improved zygote electroporation technology of CRISPR/Cas9-mediated genome editing. Costs are 500,000-600,000 yen for generating a gene-disrupted mouse or a mouse carrying knock-in or point mutation. Costs for mouse breeding and shipping are also required. Please contact Professor Takemoto for details (takemoto.tatsuya@tokushima-u.ac.jp)

A-4. Genome editing of cells (organized by Professor Seiichi Oyadomari)

Generation of genome-wide knockout cells with a pooled lentiviral sgRNA library using CRISPR/Cas9 technology for high-throughput functional genomic screening. Costs are 400,000 yen for generating genome-wide knockout human or mouse cells. Costs for next-generation sequencing and shipping are also required. Please contact Professor Oyadomari for details (oyadomar@tokushima-u.ac.jp)

(B) Joint Research

The Institute welcomes the proposal for collaborative joint research with the following laboratories. In general, up to 500,000 Japanese yens per proposal per fiscal year will be supported to a successful research proposal.

B-1. Division of Genome Medicine

Professor Toyomasa Katagiri, tkatagi@genome.tokushima-u.ac.jp

B-2. Division of Protein Expression

Professor Yasuo Shinohara, yshinoha@genome.tokushima-u.ac.jp

B-3. Division of Cell Signaling

Professor Hidetaka Kosako, kosako@tokushima-u.ac.jp

B-4. Division of Embryology

Professor Tatsuya Takemoto, takemoto.tatsuya@tokushima-u.ac.jp

B-5. Division of Molecular Biology

Professor Seiichi Oyadomari, oyadomar@genome.tokushima-u.ac.jp

B-6. Division of Molecular Neurobiology

Professor Suehiro Sakaguchi, sakaguchi@tokushima-u.ac.jp

B-7. Division of Molecular Immunology

Professor Mitsuru Matsumoto, mitsuru@tokushima-u.ac.jp

B-8. Division of Molecular Medicine

Professor Yoshiyuki Minegishi, yminegishi@genome.tokushima-u.ac.jp

B-9. Division of Pathology and Metabolome Research for Host Defense

Professor Hiroshi Kido, kido@tokushima-u.ac.jp

B-10. Division of Molecular Endocrinology

Professor Seiji Fukumoto, fukumoto.seiji.1@tokushima-u.ac.jp

B-11. Division of Diabetes Therapeutics and Research

Professor Munehide Matsuhisa, matuhisa@tokushima-u.ac.jp

B-12. Division of Molecular Life Science

Professor Tomohide Saio, saio@tokushima-u.ac.jp

B-13. Department of Immunology and Parasitology

Professor Koji Yasutomo, yasutomo@tokushima-u.ac.jp

B-14. Department of Oral Molecular Pathology

Professor Naozumi Ishimaru, ishimaru.n@tokushima-u.ac.jp

In the case you cannot visit our Institute due to the pandemic of COVID-19, we encourage the joint research and joint usage activities without your visiting. Please consult closely with our Institute's researchers and conduct your projects.

Eligibility

A researcher affiliated with a university or a public research institute, or a researcher approved by the Director of our Institute. The approval from the affiliated organization is required. The Institute of Advanced Medical Sciences does not discriminate on the basis of nationality, race, religion, disability, gender, marital status, sexual orientation, age, or any other illegal or unfair basis.

Application

Please convert the complete application that contains the following items to a single PDF document within two pages, and send as an e-mail attachment to <kyodo@tokushima-u.ac.jp> with the subject line: "Application for Joint Usage Joint Research Programs". Application deadline is 29th January 2021.

-Personal information: Full name, Degree(s), Title, Organization, Mailing address, Phone number, E-mail address, and Country of citizenship

-Three names of your references

-Representative research records, chiefly within the last five years

-Proposed research: Title, Aspect (choose one from Joint Usage A1-A4 and Joint Research B1-B14, Contact researcher at our Institute, Research aims, Methods, Necessities, Outcomes, Budget, and Research duration

Schedule

Deadline of the application is 29th January 2021. Successful applicants will be notified before the end of March 2021. Approved joint usage and/or joint research should be performed

between 1st April 2021 and 31st March 2022.

Obligations

Successfully selected applicants must send us a brief report of their research activities and findings within two pages. The report should include the publication of the papers and the presentations at scientific meetings. A single PDF document that contains the report has to be sent to us via e-mail by 31st March 2022.

When the selected applicant is reporting the findings out of the Joint Usage and Joint Research Programs in an academic paper, she/he must state clearly in that paper that the research was carried out under the support of The Joint Usage and Joint Research Programs, the Institute of Advanced Medical Sciences, Tokushima University. A copy of that paper must be sent to us.

The leader or a member of the project will be requested to make a presentation at the Joint Usage and Joint Research Programs Conference.

Contact

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