

**Call for applications: 2017 Joint Usage and Joint Research Programs, Institute of Advanced Medical Sciences, Tokushima University**

30th January 2017

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-disciplinal and trans-omic studies for advanced medical sciences. The Institute was established on 1st April 2016, and currently hosts 17 laboratories.

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 2017, which begins on 1st April 2017 and ends on 31st March 2017.

**(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 1,000,000 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)

Representative costs are 778,000 yens per sample for whole human genome sequencing (Illumina Hiseq1500), 384,000 yens per lane (6 samples) for whole human exon analysis (Illumina Hiseq1500), 235,000 yens per lane (6 samples) for whole human RNA-seq analysis (Illumina Hiseq1500), 205,000 yens per lane (15 samples) for RNA-seq expression analysis (Illumina Hiseq1500), and 60,000 yens per sample for Affymetrix human microarray analysis. NGS analysis may be carried out for hereditary disease samples. Please contact Professor Katagiri for details (tkatagi@genome.tokushima-u.ac.jp). Human sample analysis requires the prior approval from appropriate intramural committee of the applicant's affiliated organization.

A-2. Epigenetic analysis (organized by Professor Makoto Tachibana)

Chromatin extraction, bisulfite sequencing, and chromatin immunoprecipitation with or without denaturation. Genome-wide epigenetic analysis using next generation sequencers may also be supported. Please contact Professors Tachibana and Katagiri for details (mtachiba@tokushima-u.ac.jp, tkatagi@genome.tokushima-u.ac.jp).

A-3. Proteome analysis (organized by Professor Hidetaka Kosako)

Mass spectrometry (EASY-nLC 1200 connected to Q Exactive Plus, Thermo Fisher Scientific) and 2D-DIGE (two-dimensional difference gel electrophoresis, GE Healthcare). Mascot, Proteome Discoverer, Scaffold, SIEVE, Pinpoint, and BioPharma Finder can be used for data analysis. Representative costs are 15,000 yen per sample for identification of proteins from gel fragments after 1D or 2D electrophoresis, 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, SILAC, and PRM) of proteins and phosphorylation sites in complex samples such as cell lysates, and 15,000 yen per sample for 2D-DIGE analysis. Please contact Professor Kosako for details (kosako@tokushima-u.ac.jp). Human sample analysis requires the prior approval from appropriate intramural committee.

A-4. 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 400,000 yen for generating a gene-disrupted mouse and 600,000 yen for 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](mailto:takemoto.tatsuya@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. Those who need higher amount of the budget can make a special request up to 1,000,000 Japanese yens per proposal per fiscal year, by clarifying the special reason.

### B-1. Division of Genome Medicine

Professor Toyomasa Katagiri, [tkatagi@genome.tokushima-u.ac.jp](mailto:tkatagi@genome.tokushima-u.ac.jp)

### B-2. Division of Epigenome Dynamics

Professor Makoto Tachibana, [mtachiba@tokushima-u.ac.jp](mailto:mtachiba@tokushima-u.ac.jp)

### B-3. Division of Protein Expression

Professor Yasuo Shinohara, [yshinoha@genome.tokushima-u.ac.jp](mailto:yshinoha@genome.tokushima-u.ac.jp)

### B-4. Division of Disease Proteomics

Professor Hisaaki Taniguchi, [hisatan@tokushima-u.ac.jp](mailto:hisatan@tokushima-u.ac.jp)

### B-5. Division of Cell Signaling

Professor Hidetaka Kosako, [kosako@tokushima-u.ac.jp](mailto:kosako@tokushima-u.ac.jp)

### B-6. Division of Embryology

Professor Tatsuya Takemoto, [takemoto.tatsuya@tokushima-u.ac.jp](mailto:takemoto.tatsuya@tokushima-u.ac.jp)

### B-7. Division of Experimental Immunology

Professor Yousuke Takahama, [takahama@genome.tokushima-u.ac.jp](mailto:takahama@genome.tokushima-u.ac.jp)

### B-8. Division of Molecular Biology

Professor Seiichi Oyadomari, [oyadomar@genome.tokushima-u.ac.jp](mailto:oyadomar@genome.tokushima-u.ac.jp)

### B-9. Division of Inflammation Biology

Professor Tatsuya Saitoh, [saitohtatsuya@tokushima-u.ac.jp](mailto:saitohtatsuya@tokushima-u.ac.jp)

### B-10. Division of Enzyme Pathophysiology

Professor Kiyoshi Fukui, [kiyo.fukui@tokushima-u.ac.jp](mailto:kiyo.fukui@tokushima-u.ac.jp)

B-11. Division of Molecular Neurobiology

Professor Suehiro Sakaguchi, [sakaguchi@tokushima-u.ac.jp](mailto:sakaguchi@tokushima-u.ac.jp)

B-12. Division of Molecular Immunology

Professor Mitsuru Matsumoto, [mitsuru@tokushima-u.ac.jp](mailto:mitsuru@tokushima-u.ac.jp)

B-13. Division of Molecular Medicine

Professor Yoshiyuki Minegishi, [yminegishi@genome.tokushima-u.ac.jp](mailto:yminegishi@genome.tokushima-u.ac.jp)

B-14. Division of Immune Regulation

Professor Taku Okazaki, [tokazaki@genome.tokushima-u.ac.jp](mailto:tokazaki@genome.tokushima-u.ac.jp)

B-15. Division of Pathology and Metabolome Research for Infectious Disease and Host Defense Professor Hiroshi Kido, [kido@tokushima-u.ac.jp](mailto:kido@tokushima-u.ac.jp)

B-16. Division of Molecular Endocrinology

Professor Seiji Fukumoto, [fukumoto.seiji.1@tokushima-u.ac.jp](mailto:fukumoto.seiji.1@tokushima-u.ac.jp)

B-17. Division of Diabetes Therapeutics and Research

Professor Munehide Matsuhisa, [matuhisa@tokushima-u.ac.jp](mailto:matuhisa@tokushima-u.ac.jp)

### **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>](mailto:kyodo@tokushima-u.ac.jp) with the subject line: “Application for Joint Usage Joint Research Programs”. **Application deadline is 28th February 2017.**

- 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-B17), Contact researcher at our Institute, Research aims, Methods, Necessities, Outcomes, Budget, and Research duration

### **Schedule**

Deadline of the application is 28th February 2017. Successful applicants will be notified before the end of March 2017. Approved joint usage and/or joint research should be performed between 1st April 2017 and 31st March 2018.

### **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 2018.

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.

### **Contact**

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