

AMED-CIHR Research Collaboration on “Advancing Epigenetic Technologies”

Call Opens: 22nd June 2020

Call Closes: 15th September 2020

The Japan Agency for Medical Research and Development (AMED) and the Canadian Institutes of Health Research (CIHR) are pleased to launch a call for proposals for a Research Collaboration on “Advancing Epigenetic Technologies.” This jointly funded initiative is aimed at fostering collaborative links between researchers in Canada and Japan. We invite joint application from researchers based in Canada and Japan. The deadline for applications is **15th September 2020**. Successful grants will be announced in December 2020.

Background

Over the past several years, epigenetics research has led to the substantially improved understanding of a host of biological and cellular processes. Epigenetic processes triggered by external factors, such as environmental impacts, nutrition or cellular stress, are now being linked to common and complex human diseases. High-throughput epigenomics research is now bringing further improved understanding of epigenetic/epigenomic mechanisms and processes in human health and disease, leading to novel approaches in the prevention, diagnosis and treatment of human disorders. At the same time, epigenetics and epigenomics are demanding fields, both in terms of research infrastructure and scientific expertise. Given this level of complexity, international cooperation can pool resources and generate new capacities and competencies to catalyze further research.

Further recognizing the importance of strengthening cooperation in line with the *Agreement Between the Government of Canada and the Government of Japan on Cooperation in Science and Technology*, and building on the success of the previous collaboration on the Epigenetics of Stem Cells Team Grant program, AMED and CIHR propose the launch of a Team Grant funding opportunity on Advancing Epigenetic Technologies. For the sake of this funding opportunity, please note that both epigenetic and epigenomic mechanisms and approaches are considered under the general heading of “epigenetic technologies.” This funding opportunity will build on the respective research strengths of Canada and Japan in basic science and technology as it relates to epigenetics and epigenomics.

In response to the promising potential for work between our two countries, this call is dedicated to strengthening collaborations between researchers in Canada and Japan with a focus advancing epigenetic technologies.

Aim

The overarching aim of this collaborative initiative is to provide bi-lateral support to biomedical and health researchers in Canada and Japan that will allow them to forge lasting collaborations in this emerging health research area. This initiative aims to strengthen existing links or foster new links that add value to research taking place in both countries. This is expected to be achieved by facilitating exchange and catalysing innovative synergy amongst collaborators and is particularly aimed at those who are in the early stages of their careers. Applications may only be made by eligible early career researchers (see Eligibility section below for more information). It is hoped that the partnerships established through these awards will lead to the development of long-term collaborative research programmes that will be competitive for international funding.

Objectives

The objective is to provide bilateral support for up to three, innovative collaborative team partnerships between researchers from Japan and Canada, that has the potential to catalyze further collaborations. These will enable important synergy between researchers with shared or complementary interests.

Specific objectives that underpin the Canada-Japan Teams in Advancing Epigenetic Technologies are to promote:

- partnerships between Canada and Japan investigators in fields of biomedical and health research
- the exchange of scientists, particularly early career scientists,
- knowledge or methodology exchange,
- complementary access to facilities / resources / equipment
- stronger opportunity for collaborative research and catalyze further synergy

It is expected therefore that jointly planned collaborative Canada-Japan partnership project applications will be submitted. Applications from early career researchers are invited.

Scope

This call aims to support early career researchers develop fruitful international collaborations in the field of **epigenetic mechanisms and technologies**. Within this broad field AMED-CIHR would particularly like to encourage applications which tackle challenging issues in this emerging area. The applications are expected to focus on high-risk / high-reward projects in this area, including i) new cell biology, such as cell metabolism; ii) new disease mechanisms; iii) cell-free and circulating biomarkers, iv) single-cell biology and informatics; v) integrated analysis of multi-layer epigenetic information, and vi) other new technologies.

Epigenetic analyses in cell biology and diseases have already brought substantial amounts of new knowledge, and this call expects further innovative proposals. Epigenetic disease markers are now coming into clinical studies, and this call expects proposals that brings these novel markers to clinics. Single cell biology now involves genomic DNA sequencing, transcriptomics, and epigenomics, and distinct cell types within a population of cells that was previously thought to be the identical. This call expects proposals that further takes advantages of the new knowledge. Epigenetic information is piling up for multiple modifications and multiple cell types. This call expects novel strategies, computational / informatics, and/or experimental approaches to extract novel/useful information using 'big data'.

Multidisciplinary approaches are encouraged.

Examples of research areas of interest could include:

- Regulation mechanisms of epigenetic writers, erasers, and readers
- Recording mechanism of environmental exposure in stem cells, and development of preventive diagnostic and treatment techniques
- Diversity analysis of circulating non-hematological cells and biomarker development
- Neuronal diversity in the brain, its maintenance mechanisms, and its functional relevance
- Development of high-throughput single-cell analysis method of organs / tissue
- Development of informatics tool and demonstration of its usefulness

Funding

AMED and CIHR will jointly provide bi-lateral support for up to three years to intensify productive collaboration in research advancing epigenetic technologies between Canada and Japan's leading researchers.

It is anticipated that 3 grants will be jointly supported, and the total funding available to support these 3 projects over 3 years will be 900,000 Canadian Dollar [CAD] from CIHR and 90 million Japanese Yen [JPY] from AMED.

Each jointly planned Canada-Japan project will receive a maximum award of 300,000 [CAD] from CIHR for the Canadian component of the team, plus 30 million [JPY] from AMED for the Japanese researchers for the three-year period. *(That is 100,000 [CAD] from CIHR plus 10 million [JPY] AMED per annum, over the three-year period.)*

GUIDANCE FOR APPLICANTS

I. GENERAL GUIDANCE

AMED and CIHR invite researchers based in Canada and Japan to submit jointly planned collaborative partnership projects focused on advancing epigenetic technologies. For this initiative, a single full proposal must be submitted to AMED through the online application system (e-Rad) and, in parallel, an abbreviated application must be submitted to CIHR using ResearchNet. See “IV APPLICATION” section for the instructions in detail.

For each joint project there will be a single Canada-based principal investigator (PI) and a single Japan-based principal investigator (PI). These Co-principal investigators (**Co-PIs**) will lead the submission in their respective country to their respective agency (Full proposal to AMED in Japan and Abbreviated application to CIHR in Canada).

Co-PIs may only apply for one joint project in this Canada-Japan call.

Collaborative Research Agreement (CRA)

It will be the responsibility of the Co-PIs and their research organisations to draw up a Collaborative Research Agreement (CRA) suitable to administer and manage the delivery of the project activities, finances, intellectual property rights (IPR) and to avoid disputes which might be detrimental to the completion of the project.

The Co-PIs should send the CRA signed by all partners to AMED and CIHR. This agreement will be made available to the concerned funding organisations. The project partners are encouraged to sign this CRA before the official project start date, and to submit it **no later than six months after the official project start date**.

Start date and Duration

The duration of the joint collaborative research project shall be no longer than 3 years [36 months] in total from the start date. **Grants MUST start on 1st January 2021.**

This project start date must be stated in the **Collaborative Research Agreement (CRA)**.

II. ELIGIBILITY

Please note that “early career researcher” definitions differ slightly between Canada and Japan. The Nominated Principal Applicant in each country must meet the definition for that country to be eligible, as provided below.

In Canada

The Canada-based Nominated Principal Applicant must be the person who will be the Canada-based Co-PI for the project.

For an application to be eligible:

- The Nominated Principal Applicant must be an [independent researcher](#).
- The Nominated Principal Applicant must be appointed at an eligible institution (see [Institutional Eligibility Requirements](#) for eligibility process and associated timelines).

- The Nominated Principal Applicant must be an [early career researcher](#).

For additional eligibility requirements for individuals, refer to the [Individual Eligibility Requirements](#) on the CIHR website.

In Japan

The Japan-based Co-PI must be an [early career researcher^{1\)}](#) affiliated with [a research institution in Japan^{2\)}](#) where the proposed project is carried out.

- 1) A researcher who was born on or after April 2nd 1972 or a researcher who has an independent research appointment for a period of 0 to 5 years (60 months) at the time of application. If the researcher was born before April 2nd 1972 or the period of independent research appointment exceeds 5 years (60 months), the number of days of maternal or parental leaves can be considered in the calculation of eligibility.
- 2) Includes educational corporations such as national, public and private university corporations, public research organisations such as national and public testing and research bodies, independent administrative agencies, national research and development corporations, and public organizations such as benevolent corporations.

The following researchers are also eligible.

- [An early career researcher^{1\)}](#) of foreign nationality who is affiliated with [a research institution in Japan^{2\)}](#).
- [An early career researcher^{1\)}](#) who is able to bear overall responsibility for an R&D project through the entire project period.

For further details, please refer to “日本側研究者向け補足応募注意事項 (Supplemental application instruction for researchers in Japan).”

III. FINANCIAL SUPPORT

In this joint call, AMED and CIHR will fund **up to 3 collaborative research proposals** with bi-lateral support. Each jointly planned Canada-Japan project will receive a maximum award of 300,000 [CAD] from CIHR plus 30 million [JPY] from AMED in total for the three-year period. *(That is 100,000 [CAD] from CIHR plus 10 million [JPY] AMED per annum, over the three-year period.)*

AMED will provide their support to the Japan-based Co-PI at their research organisation, and CIHR will support researchers based in Canada. AMED and CIHR expect the costs on each side to accurately reflect the activities proposed in the application and that the collaborative research effort on both sides should be comparable.

It is anticipated that the requested costs will reflect the nature of the intended activities to fit the objectives of this call:

- partnerships between Canada and Japan investigators in fields of biomedical and health research
- the exchange of scientists, particularly early career scientists,
- knowledge or methodology exchange,
- complementary access to facilities / resources / equipment
- stronger opportunity for collaborative research and catalyse further synergy

In Canada

CIHR and partner(s) financial contributions for this initiative are subject to availability of funds. Should CIHR or partner(s) funding levels not be available or are decreased due to unforeseen circumstances, CIHR and partner(s) reserve the right to reduce, defer or suspend financial contributions to grants received as a result of this funding opportunity.

The total amount available for the Canadian component of this funding opportunity is 900,000 [CAD], enough to fund 3 grants. The maximum amount per grant is 100,000 [CAD] per year for up to three years, for a total of 300,000 [CAD] per grant.

Applicants should review the [Use of Grant Funds](#) section of the Tri-Agency (CIHR, NSERC and SSHRC) Financial Administration Guide for requirements regarding allowable costs and activities.

Please see the CIHR website for more information about the conditions of funding.

In Japan

AMED will provide 10 million [JPY] per annum, over the three-year period as its contribution to bilateral support for each awarded project.

Contract between Japan-based Co-PI and AMED

Support will be implemented in accordance with a contract for commissioned research which shall be entered into between AMED and the Japan-based Co-PI's Institution. The contract for commissioned research will be signed each fiscal year over the collaborative research period. Since the contract is agreed on condition that all administrative procedures related to the project in question shall be handled within the institution, the Co-PI should consult with the department in charge at his/her institution.

Budget for Collaborative Research Projects: the total budget for each project proposed by Japan-based Co-applicants over a full three-year period (i.e. thirty-six months) should not exceed 30 million [JPN] in principle including indirect cost. The planned budget for research projects may vary each fiscal year, depending on the planned activities specific to each project. Funding for Japan-based applicants are allowable for the items listed below.

	Main item	Definition
Direct costs	Costs of goods (equipment/supplies)	Research facilities/equipment/prototypes, software (ready-made goods), book purchasing costs, purchasing costs for reagents/materials/consumables for use in research
	Travel costs	Travel costs of R&D participants, travel costs for invited participants such as external experts
	Personnel costs/ services costs	Personnel costs: personnel costs for researchers, etc., employed to conduct the relevant contracted R&D Service costs: expenditure for services such as lecture requests, guidance/advice, test subjects, interpreters/translators, and unskilled labor.

	Other	Costs for implementing the relevant contracted R&D other than the above. Examples: R&D results publication costs (academic paper contribution costs, academic paper offprint costs, website production costs, etc.), conference costs, equipment leasing costs, Equipment repair costs, printing costs, subcontract costs, testing costs, amount equivalent to consumption tax related to untaxed transactions, etc.
Indirect costs*	Expenditure used by research institutes and paid by AMED as necessary costs for managing the research institutes during implementation of the relevant R&D, paid at a fixed percentage of direct costs (within 30%) as an allowance.	

* Implemented when AMED concludes a contracted R&D agreement with a national university corporation, inter-university research institute corporation, independent administrative corporation, special corporation, special private corporation, general incorporated association, general incorporated foundation, public interest incorporated association, public interest incorporated foundation or private university, etc., and does not apply in the case that the researcher is affiliated with a national facility or other institution (excluding the National Institute for Educational Policy Research). The fixed percentage will not exceed 30%. With regard to Subsidiary Institutions (excluding national facilities or other institutions) also, indirect costs are allocated in accordance with direct costs.

IV. APPLICATION

The Application Process is comprised of 1. Full Proposal to AMED and 2. Abbreviated Application to CIHR. **Failure to submit a valid Full Proposal application to AMED and a valid Abbreviated Application to CIHR will invalidate both submissions.**

1. Full Proposal to AMED

- Canada-based Co-PI and Japan-based Co-PI must work together to complete an application form “Joint Case for Support” in English.
- Japan-based Co-PI must electronically submit the application form to AMED through the online application system e-Rad (<http://www.e-rad.go.jp/index.html>) by 20:00 [Japan Standard Time] on **15th September 2020**.

2. Abbreviated Application to CIHR

The purpose of this additional application to CIHR is to provide CIHR with an Operating Budget for the project, with the amounts quoted in Canadian dollars, a complete justification for funds requested, and one-page research summary of the project.

- Canada-based Co-PI and Co-Investigators must complete an abbreviated CIHR application (in one of the two official languages of Canada) and submit it to CIHR using ResearchNet.
- The deadline for submission of this application is the same as the Full Proposal deadline to AMED.
- All application participants, with the exception of Collaborators, will require a CIHR PIN and to complete the Equity and Diversity Questionnaire.

V. EVALUATION by REVIEW COMMITTEE

EVALUATION of PROPOSALS

Evaluation of proposals within remit will be undertaken by the Review Committee, a single evaluation committee for this joint program consisting of experts from Canada and Japan respectively. Recommendations from the Review Committee will be considered when AMED and CIHR make decisions on the final funding allocation.

The experts of the Review Committee will individually rate their assigned proposals against the four Key Evaluation Criteria (below) using the Rating Scale (further below). The experts will subsequently rate the proposals in a comprehensive manner to derive an overall assessment score. The scores of the Key Evaluation Criteria should be considered when rating the overall assessment score. The mean (rounded to one decimal place) of the overall assessment scores from all of the experts assigned to the proposal is the conclusive score to judge the proposal. Proposals rated below 5.4 are not eligible for funding.

Key Evaluation Criteria:

1. Fit to joint call purpose
2. Importance, scientific/technological significance and clear benefit through collaborative activities
3. Quality and value for money of the implementation/appropriateness of the plan
4. Potential Impact

Rating Scale:

Score	Category
1	Extremely Poor
2	Very Poor
3	Poor
4	Marginal
5	Fair

Score	Category
6	Good
7	Very good
8	Excellent
9	Outstanding
10	Exceptional

Announcement of Decision:

Successful co-applicants will be notified of the final decision by AMED and CIHR by **December 2020**.

EVALUATIONS of POST-PROJECT INITIATION

Around the time of the conclusion of the program, post-project evaluation by the Review Committee will be performed for each of the projects.

In the case that it becomes necessary to conduct interim assessment while implementing the program, interim evaluations by the Review Committee shall be performed. Depending on the evaluation results and a comprehensive judgement by PO, projects may be early terminated.

VI. REPORTING

Awarded researchers and their affiliated institutions will observe the following when carrying out the collaborative research and utilizing funds provided by AMED and CIHR.

- Annual Progress Report

At the end of fiscal year, the Co-PIs should promptly submit a joint progress report in English. In addition, successful applicants could be asked to present the project results during dedicated Review Seminars.

In Japan Co-PIs will need to send the annual report by email to kokusai5931@amed.go.jp, and to complete the annual report submission through e-Rad system. In Canada Co-PIs will need to send the annual report by email to CEEHRC-CCREES@cihr-irsc.gc.ca.

- Final Report

AMED and CIHR will request a brief final report on this collaborative activity. Joint final reports should be submitted within 2 months after completion of the period of international collaborative research. The report should include a general summary compiled jointly by the Canada-based research group and the Japan-based research group. If papers describing results of collaborative research are presented to academic journals, societies and so on, copies of such papers are to be attached to the final report.

In Japan Co-PIs will need to send the final report by email to kokusai5931@amed.go.jp, and to complete the annual report submission through e-Rad system. In Canada Co-PIs will need to send the final report by email to CEEHRC-CCREES@cihr-irsc.gc.ca.

It will also be necessary for each funded group to submit reports to AMED and CIHR in accordance with the respective regulation.

VII. TIMETABLE

- **Call opens: 22nd June 2020**
- **Call closed: 15th September 2020**
- **Evaluation of proposals by individual reviewers: 16th September to 31st October 2020**
- **Funding decision: November 2020**
- **Grant awarded: December 2020**
- **Project start: January 2021**

VIII. CONTACT INFORMATION

Canada-based co-applicants should contact the following for further information:

On scope and objectives:

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On application and eligibility:

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Japan-based co-applicants should contact the following for further information:

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