Transnational Access to Large Prospective Cohorts in Europe
BBMRI-LPC 3rd Scientific Call for Access
Deadline 31st January 2016

BBMRI-LPC supports innovative research projects conducted in large prospective cohorts (LPC) across Europe. This is done by offering free access to samples for specific research projects selected through open scientific calls. Building on the success of the first call in 2014 and on the second call in spring 2015, we are pleased to launch the third and **final BBMRI-LPC Scientific Call for Access**.

This is an outstanding opportunity for European scientists to gain access to the unique collections of data and samples from the BBMRI-LPC network of high-quality cohort studies.

Background

The BBMRI-LPC project (Biobanking and Biomolecular Research Infrastructure – Large Prospective Cohorts) aims to facilitate large transnational research projects conducted in prospective cohort studies. The project is funded through the European Commission seventh framework program (FP7), and the activities revolve around developing procedures for bringing together samples and data from multiple European prospective cohorts, with a specific focus on quality assurance, ethical, legal, and logistical issues. An important aspect of this work is by providing free access to samples and exposure data to support concrete research projects involving multiple prospective cohorts selected through a competitive review process, i.e. the BBMRI-LPC Scientific Call for Access. Since the primary aim of the scientific call is to cover the costs of accessing data and samples from the cohorts, the downstream research must be supported by alternative funds. However, a limited amount of funds will also be granted to selected projects in order to support generation of new 'omics' data.

The first two Calls for Access were run in 2014 and 2015. Several scientifically relevant proposals were received covering a wide range of diseases, such as Type 2 Diabetes, cardiovascular diseases and cancer. Overall, half of the proposals submitted to the first two calls were selected for support from BBMRI-LPC, some of which will also receive support for genome-wide genotyping and metabolomics analysis.

Participating cohorts

The BBMRI-LPC project constitutes a large network of 19 European cohort studies, involving over 2.8 million study participants with lifestyle information and samples collected at baseline. Detailed information on the participating cohorts and the available resources are described on BBMRI-LPC access website and BBMRI biobank catalogue.

Scope for study proposals

Study proposals may target the broad field of **common chronic diseases** such as cardiovascular disease, Type 2 diabetes and cancer, and should benefit from using prospective data from multiple European studies (involving at least two cohorts). Of note, because the participating cohorts predominantly recruited healthy research participants that were subsequently followed to identify incident disease cases, studies of rare exposures or rare endpoints is challenging as case-numbers may not be sufficient. Examples of proposals of particular interest include studies on disease aetiology where pre-diagnostic measures of the exposure are important, either through questionnaire information or biomarker analysis, as well as studies on biomarkers for early detection or risk profiling.

Support offered

The successful applicants will be offered free access to samples and exposure data from the BBMRI-LPC network of 19 European cohort studies, involving over 2.8 million study participants with lifestyle information and samples collected at baseline.

Funds will not be provided to the successful applicants but will instead be provided to the cohorts to perform the access services requested by the successful applicants.

ⓘ Support will cover:

- Retrieval, preparation, quality control and shipment of samples;
- Data management, e.g. registry linkage, matching of controls to index cases, retrieval of exposure and endpoint variables;
- Support with attaining scientific review board and ethics approval at the cohort home institution;
- Some support for metabolomics and whole-genome genotyping/sequencing data.

ⓘ Support will not include:

- Laboratory analyses;
- Statistical analyses;
- Harmonisation of data.

Costs for these activities will have to be covered by the applicant through other sources of funding.

Of note, BBMRI-LPC will assess the data harmonisation approach proposed by the applicant in the review process. However, the actual data harmonisation procedure will be carried out by the applicant.

Regarding metabolomics and whole-genome genotyping/sequencing data, it is envisaged that predefined and cost-efficient assays will be used. For the metabolomics analyses a targeted platform operational at The Genome Analysis Centre of Helmholtz Centre in Munich, Germany; and for the Genome-Wide Association Study (GWAS) analyses a genotyping array from a major industrial party covering both common and rare gene variants operational at The Welcome Trust Sanger Institute in Hinxton, UK. These analyses will be performed in the studies where the investigators can demonstrate in their proposal that the analyses will add a substantial value to their specific research project.

Eligibility

BBMRI-LPC Scientific Calls for Access are open to scientists and investigators who work in an institution located in an EU Member State or Associated State.

Transnational access means that applicants cannot gain free access to the samples/data from cohorts of their home country, but only from cohorts of other participating countries. The exception to this rule is when an application is filed by an international consortium of researchers from several countries.

Review criteria

The criteria for evaluation of the research applications are as follows:

- **Prospective and pan-European study design:** Any approved project must show that the research question benefits from a study design where the research participants were recruited prior to the endpoint or phenotype of interest, as well as by including data from multiple European countries.
- **Significance:** The proposed project must address an important biomedical research question.
- **Scientific approach:** The proposal must describe all methodological considerations and explain how the specific objectives of the project will be addressed and achieved. Particularly, the proposal should describe the type of samples, exposure and endpoint variables that will be needed, as well as the proposed approach for harmonisation of data and statistical analysis thereof.
- **Innovation:** The Review Committee will favour research projects that seek to move the field of research forward.
- **Investigators and research environment:** The background of the investigators and their institutions will be taken into account when assessing the feasibility of the proposed study.

Examples of supported research projects

- **Markers of Imminent Myocardial Infarction (MIMI) study**

Myocardial infarction (MI) is the leading cause of death worldwide. The aim of the project is to identify novel biomarkers indicative of MI within 6 months (imminent) of blood draw. Technologies that will be applied include targeted protein measures, metabolomics and epigenomics. The proposal also includes a Mendelian randomization component to evaluate potential causal relations. The hope is to develop a panel of biomarkers that are useful in risk prediction, as well as informative for disease aetiology.
Principal investigator: Johan Sundström, Uppsala University, Sweden

- **Discovery of early biomarkers for pancreatic cancer**

Patients with pancreatic cancer have extremely poor survival rates, with the post-diagnostic life expectancy of only a few months. This project aims to discover pre-diagnostic biomarker profiles for pancreatic cancer based on metabolites and miRNAs with an aim for earlier detection, and to eventually allow more successful interventions.
Principal investigator: Gert-Jan B. van Ommen, Leiden University Medical Centre, Netherlands

- **Metabolic pathways of kidney cancer**

The most important risk factors for kidney cancer include obesity, hypertension and other factors attributed to the metabolic syndrome (MetS), but the underlying biological mechanism(s) mediating these strong relations remain unclear. This project aims to evaluate the metabolic profiles predisposing kidney cancer using metabolomics analysis. This analysis will also be complemented by a Mendelian randomization analysis to evaluate potential causal relations.
Principal investigator: Mattias Johansson, International Agency for Research on Cancer (IARC), Lyon, France

- **Exposure to brominated disinfection by-products and prospective metabolic alteration**

Non-alcoholic fatty liver disease (NAFLD) is a pathological condition expressing hepatic insulin resistance characteristics, increasing the risk of developing Type 2 diabetes mellitus (T2DM). The aim of this project is to investigate causal pathways between exposures to commonly occurring brominated disinfection by-products and T2DM. This will be addressed by analysing brominated trihalomethanes (Br-THM) in urine samples from two cohorts, as well as metabolomics and GWAS analysis on a subset of the study population.
Principal investigator: Konstantinos Makris, Cyprus International Institute for Environmental and Public Health in association with Harvard School of Public Health

How to apply

- Letter of intent

In order to estimate the number of expected study proposals, applicants are strongly encouraged to indicate their intention to apply by sending an e-mail with name, affiliation and analysis of interest to the following email address: bbmrilpc-call-apply@iarc.fr

- Catalogue

Visit BBMRI-LPC Access website to identify appropriate cohorts for your research project. The catalogue displays important information on the design of each cohort, including overall cohort size, available exposure variables, endpoints, and samples collected at baseline.
Applicants may contact the individual cohorts prior to submitting their proposal if it is unclear whether the necessary data or samples are available.

- Request a user account

While all visitors can browse through BBMRI-LPC Access website and its catalogue, a login is requested to submit a research proposal.

Make sure to send your request at least one working day ahead of the deadline as accounts will be activated manually.

- Submit before the deadline on 31st January 2016

Applicants should use the online application system to submit their research proposal.

Complete information on how to apply is available on BBMRI-LPC Access website under Data Access > How To Apply.

Evaluation procedure

An independent, scientific Review Committee is responsible for the evaluation of research proposals. Applications will be evaluated on the basis of the above-listed criteria. Applications will be scored in each criterion from 1 (poor) to 5 (excellent) and ranked according to their sum of scores across all criteria.
Proposals selected for support by BBMRI-LPC will be recommended for a final approval by the individual cohorts whose resources are sought. **Experience from the first BBMRI-LPC Scientific Calls for Access indicates that successfully reviewed proposals are also viewed favourably by the individual cohorts.**
Any individual research project considered for access support from BBMRI-LPC will be required to attain ethics clearance by the home institution of the investigator. In addition, most cohorts will require additional local ethics clearance for the proposed research that can be sought following the review.

Indicative timetable for evaluation

Proposals are evaluated within three months after a call deadline.

Questions?

For further information on BBMRI-LPC Scientific Call for Access please visit BBMRI-LPC Access website, especially the Data Access section and the forum's Frequently Asked Questions.

If your question remains unanswered please feel free to contact the helpdesk at bbmrilpc-call-helpdesk@iarc.fr.