FNIH
Foundation for the National Institutes of Health

Request for Proposal

AMP CMD RFP 5: Generation of -omic/multi-omic data from human tissues relevant to Common Metabolic Diseases for incorporation into the AMP CMD Knowledge Portals

Background:
The Accelerating Medicines Partnership®[1] program in Common Metabolic Diseases (AMP® CMD) is a public-private partnership between the National Institute of Diabetes and Digestive and Kidney Diseases at the National Institutes of Health, and the Foundation for the National Institutes of Health, and industry partners that aims to elucidate human disease drivers to understand the underlying pathophysiology of common metabolic diseases; including obesity, atherosclerotic cardiovascular disease and heart failure, pre-diabetes, type 2 diabetes, type 1 diabetes and diabetic complications, nonalcoholic fatty liver disease (NAFLD) and steatohepatitis (NASH), and chronic kidney disease (CKD). In doing so, the AMP CMD program strives to accelerate the identification of novel, high-value, actionable therapeutic targets across common and prevalent metabolic diseases with substantial unmet medical need. Data and analytic tools attained from study cohorts or generated through AMP CMD program are made publicly available in the AMP CMD Knowledge Portal (CMDKP) and/or the CMD Genome Atlas (CMDGA) for use by the broad research community.

Request: The Foundation for the National Institutes of Health[2] (FNIH) is requesting proposals for development and expansion of data for the AMP CMD Knowledge Portal in 2024-26. This is a broad announcement across multiple CMD tissue and data types to meet the goals of AMP CMD.

Issued by: FNIH Division of Translational Sciences on February 1, 2024.

Applications due by: April 3, 2024.

Objectives:

1) Generation of new and/or incorporation of existing -omic/multi-omic datasets in human tissues relevant to common metabolic diseases with integration into the CMDKP and/or the CMDGA. For this round of proposals, proposals from (1) diseases and tissues that are under-represented in the portal and (2) multi-tissue collections (e.g. tissue from multiple organs, relevant to multiple common metabolic diseases) will be given highest priority. Disease areas and tissues (and accompanying clinical phenotype data) of interest include:

Table 1: Diseases
**Atherosclerotic cardiovascular disease (ASCVD)
**Heart failure (HFpEF and HFrEF)

[1] *ACCELERATING MEDICINES PARTNERSHIP and AMP are registered service marks of the U.S. Department of Health and Human Services.*
[2] FNIH supports the mission of NIH by organizing and administering research programs pursuant to 42 U.S.C. §290b.

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** Nonalcoholic steatohepatitis (NASH)
**Chronic kidney disease (CKD)
**Peripheral artery disease (PAD)
Obesity
Pre-diabetes
Type 1 diabetes (T1D)
Type 2 diabetes (T2D)
Diabetic complications
Nonalcoholic fatty liver disease (NAFLD)
Pulmonary arterial hypertension (PAH)

**Disease areas that are underrepresented in the program.

Table 2: Tissues
*Kidney
*Liver
*Muscle
*Cardiac tissue
*Brain and/or CNS/PNS (non-neurologically compromised from multiple, diverse cell types & regions associated with obesity)
Intestines (especially in context of brain-gut axis)
Brown adipose tissue
Lung
Vasculature (especially in PAD), including in limbs and abdominal aorta

High priority tissues. The program has a significant amount of data from pancreas and adipose tissues already and thus a proposal including pancreas and/or adipose tissue would be strengthened by including a combination of these tissues coupled with additional high priority tissues (above).

Proposals should contain a mix of healthy and diseased subjects/tissues.

Proposals focusing on single-cell/single-nuclei genomic and epigenetic data, accompanied by genetic and clinical phenotype data, will be strongly preferred, and may also be complemented by bulk tissue genomic data.

Investigators are encouraged to submit proposals with cross-sectional or longitudinal -omic/multi-omic level genomic, genetic, and accompanying clinical phenotypic data and genotype data, including bulk and/or single cell epigenomic, transcriptomic, multi-omics from healthy and diseased human tissues relevant to CMDs. Recommended to include at >70, preferably >100, single cell samples for applications including the non-genetic multi-omics.

Proposals for generation of new -omics data as well as proposals for incorporation of existing -omics data into the portal will both be considered.

2) Proposals including plasma/serum proteomics data, associated with genotype data (preferably WGS) and associated clinical phenotypes, related to CMDs (table 1) that are representative of the patient population will also be considered.

Note: For omics data generated in the above objectives, corresponding genotype data (GWAS or WGS) is preferred; if data do not exist but are possible to generate from existing DNA, this workstream can be considered as part of the proposal.

Project Deliverables:

1. Description of experimental design, including how samples are collected, methods for QC, quality metrics and analysis.
2. Description of how data contributes to understanding of CMD pathogenesis and/or target identification.
3. Report on experimental findings, including genomic and associated clinical phenotype data.
4. Integration of genomic and associated clinical phenotype data into the CMDKP and/or the CMDGA to provide public access to experimental data.
5. Integration of novel analytic tools into the CMDKP or the CMDGA and made publicly available.
6. Plan for future publications or follow up research activities.

Project Expectations:

1. These applications are very competitive. To maximize success, FNIH may reach out during the course of review to discuss project scope and budget modifications.
2. Data submission plan to the CMDKP Team to coordinate the completion of the milestones to the portal scheduled quarterly release.
    a. If a proposal is selected to move forward for funding consideration, FNIH will coordinate a meeting with the portal team and awardee to determine when data will be submitted to the portal, how data will be incorporated into the portal, and timeline for releasing the data publicly (not to exceed 6 months after data submission).
3. Investigators are expected to deliver the project milestones by their due dates.
4. Investigators are expected to submit written reports on the deliverables by the due dates.
5. All milestone-driven data must be made publicly available by the due dates, unless approved in advance by the Steering Committee.
6. Investigators are expected to present their work twice yearly, virtual recordings acceptable if schedule conflicts, to the AMP CMD Steering Committee/consortium at face-to-face meetings or via teleconferences.
7. Investigators are expected to participate in a yearly face-to-face meeting.

Project timeframe: 1-2 years

Proposal guidelines:

1. Please reach out to Rachel Fischer (rfischer@foundationfornih.org) if you are planning to apply to be sent the appropriate templates and documents.
2. Please address the objectives and deliverables with following format:
    a. Title of your project
        - Principal investigators and co-investigators
    b. Specific Aims
    c. Timeline for deliverables
    d. Budget and justification
        - Applicants must use the provided budget template (excel document) for the detailed budget, but should include the budget justification along with the other proposal documents (not part of 5-page limit). Please indicate any early- and mid-career scientists and researchers that this award will support within budget justification.

- Competitive projects typically range in budget between $200,000 - $1,000,000 over the life of the project. This is to ensure that a diversity of programs can be funded through the AMP CMD budget.

e. Letters of support
   - A letter of support from the CMDKP team as part of the application is not required.

f. Bio sketches of Principal Investigators and co-investigators and published works (NIH bio sketches welcomed)

3. Proposal must include written permission(s) from cohorts' investigators for data sharing. See CMDKP Policies on data submission, use and access. Applicants must indicate which proposal-related data sharing permissions have already been obtained at the time of application submission.
4. The proposal (excluding budget, letters of support and bio sketches) is not to exceed five pages using 10-11pt Arial or Calibri font.
5. Send your proposal to Rachel Fischer (rfischer@foundationfornih.org) and Melissa Jones Reyes (mreyes@fnih.org) by **April 3, 2024**.
6. FNIH will notify applicants in writing of the AMP CMD Steering Committee decision on or before May 31, 2024.
7. If your proposal is selected, you will participate in a teleconference with the AMP CMD Steering Committee prior to finalizing the award contract.

Eligibility:
Any organization from the private and public sector, inside/outside the United States is eligible to apply. AMP CMD has federated nodes in Europe and the United States. It is acceptable for more than one organization to collaborate and submit a joint proposal.

For more information about the AMP CMD program, please visit:
https://fnih.org/our-programs/amp/accelerating-medicines-common-metabolic-diseases and

https://www.niddk.nih.gov/research-funding/research-programs/accelerating-medicines-partnership-common-metabolic-diseases