Plan Overview

A Data Management Plan created using DMP Tool

DMP ID: https://doi.org/10.48321/D1GP87

Title: Exploration and Validation of SHIPi Approaches in Models of Alzheimer's Disease

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Exploration and Validation of SHIPi Approaches in Models of Alzheimer's Disease

Data Type

Types and amount of scientific data expected to be generated in the project: *Summarize the types and estimated amount of scientific data expected to be generated in the project.*

Describe data in general terms that address the type and amount/size of scientific data expected to be collected and used in the project (e.g., 256-channel EEG data and fMRI images from ~50 research participants). Descriptions may indicate the data modality (e.g., imaging, genomic, mobile, survey), level of aggregation (e.g., individual, aggregated, summarized), and/or the degree of data processing that has occurred (i.e., how raw or processed the data will be)

Data generated via the following methods: flow cytometry, confocal microscopy, fluorescence microscopy, ELISA, and absorbance measurements. This data will be collected from a minimum of 3 independent in vitro experiments, with each independent experiment consisting of mutiiple group comparing different SHIPi approaches The total size of the data collected is projected to be 50 GB.

We expect to generate the following data file types and formats during this project: Carl Zeiss microscopic image file (.CZI), images (.TIFF), tabular (.CSV), flow cytometry list mode data.

Raw data files will be analyzed to generate Prizm or Excel files containing replicate measurments in the above to enable statistical analysis.

Scientific data that will be preserved and shared, and the rationale for doing so: *Describe which scientific data from the project will be preserved and shared and provide the rationale for this decision.*

In this proposed project, the cleaned, item-level Prizm files for all variables will be shared openly, along with example quantifications and transformations from initial raw data. Final files used to generate specific analyses to answer the Specific Aims and related results will also be shared. The rationale for sharing only cleaned data is to foster ease of data reuse.

Metadata, other relevant data, and associated documentation: Briefly list the metadata, other relevant data, and any associated documentation (e.g., study protocols and data collection instruments) that will be made accessible to facilitate interpretation of the scientific data.

To facilitate interpretation of the data, statistical analysis, bench protocols and details involved with data collection and interpretation will be created, shared, and associated with the relevant datasets.

Related Tools, Software and/or Code

State whether specialized tools, software, and/or code are needed to access or manipulate shared scientific data, and if so, provide the name(s) of the needed tool(s) and software and

specify how they can be accessed.

FlowJo or IncuCyte analysis software will be important to access raw list mode cytometry data. The raw data generated via confocal microscopy is in the Carl Zeiss (.czi) file format. Zeiss software or Fiji ImageJ is required to access the raw data.

Standards

State what common data standards will be applied to the scientific data and associated metadata to enable interoperability of datasets and resources, and provide the name(s) of the data standards that will be applied and describe how these data standards will be applied to the scientific data generated by the research proposed in this project. If applicable, indicate that no consensus standards exist

No consensus data standards exist for the scientific data and metadata to be generated, preserved, and shared. However, if this should change for the analysis of brain sections or behavioral studies then we will certainly adapt these standards.

Data Preservation, Access, and Associated Timelines

Repository where scientific data and metadata will be archived: Provide the name of the repository(ies) where scientific data and metadata arising from the project will be archived; see Selecting a Data Repository)

All dataset(s) that can be shared will be deposited in any repository that is created for microglial or Alzheimer's Disease research that is created by NIH or international body. To our knowledge such databases do not currently exist. If they do or are created during the tenure of this grant then we will certainly participate fully.

Imaging data will be deposited into NCI's Imaging Data Commons. All other data described above in the "data to be shared" section will be deposited into Figshare. Figshare is the institutional data repository supported by Upstate Medical University and all data is shared under a CC0 license, which makes the dataset(s) publicly accessible.

How scientific data will be findable and identifiable: Describe how the scientific data will be findable and identifiable, i.e., via a persistent unique identifier or other standard indexing tools.

We will use unique persistent unique Identifiers (PIDs) to improve data findability across all dissemination outputs, including digital object identifiers (DOI) or accession numbers, to support data discovery, reporting, and research assessment.

When and how long the scientific data will be made available: Describe when the scientific data will be made available to other users (i.e., no later than time of an

associated publication or end of the performance period, whichever comes first) and for how long data will be available.

All scientific data generated from this project will be made available as soon as possible, and no later than the time of publication or the end of the funding period, whichever comes first. The duration of preservation and sharing of the data will be a minimum of 10 years after the funding period.

Access, Distribution, or Reuse Considerations

Factors affecting subsequent access, distribution, or reuse of scientific data: NIH expects that in drafting Plans, researchers maximize the appropriate sharing of scientific data. Describe and justify any applicable factors or data use limitations affecting subsequent access, distribution, or reuse of scientific data related to informed consent, privacy and confidentiality protections, and any other considerations that may limit the extent of data sharing. See Frequently Asked Questions for examples of justifiable reasons for limiting sharing of data.

There are no anticipated factors or limitations that will affect the access, distribution or reuse of the scientific data generated by the proposal.

Whether access to scientific data will be controlled: State whether access to the scientific data will be controlled (i.e., made available by a data repository only after approval).

Controlled access will not be used. The data that is shared will be shared by unrestricted download.

Protections for privacy, rights, and confidentiality of human research participants: If generating scientific data derived from humans, describe how the privacy, rights, and confidentiality of human research participants will be protected (e.g., through de-identification, Certificates of Confidentiality, and other protective measures).

No human subjects in this study.

Oversight of Data Management and Sharing

Describe how compliance with this Plan will be monitored and managed, frequency of oversight, and by whom at your institution (e.g., titles, roles).

Lead PI William G. Kerr, ORCID: 0000-0002-4720-7135,, will be responsible for the day-to-day oversight of lab/team data management activities and data sharing. Broader issues of DMS Plan compliance oversight and reporting will be handled by the PI and Co-I team and supported institutionally by the Information Management and Technology (IMT) Research Technology Core, in accordance with general Upstate Medical University stewardship, reporting, and compliance processes.
