Plan Overview

A Data Management Plan created using DMP Tool

Title: Data Management Plan

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Copyright information:

Data Management Plan

Expected Data Type

Describe the type of data (e.g. digital, non-digital) and how they will be generated (lab work, field work, surveys, etc.). Are these primary or metadata?

Data to be generated from the proposed study will be mainly digital. All data will be generated via laboratory work, comprising of results from mice body composition, blood glucose markers, fecal 16S rDNA sequencing, flow cytometry analysis, qPCR immunoblotting and histology. All experiments will involve the generation of primary data which will be stored in the form at which they are collected or in spreadsheet (Ms. excel) format. Analyzed data which will include figures and SAS outputs will be stored in the form they are generated.

Data Format

For scientific data to be readily accessible and usable it is critical to use an appropriate community-recognized standard and machine readable formats when they exist. The data should preferentially be stored in recognized public databases appropriate for the type of research conducted. Regardless of the format used (notebook, samples, images, spreadsheet, etc.), that data set should contain enough information to allow independent investigators to understand, validate, and use the data.

Data format will be in various easily readable and accessible forms for future or public use. Raw data from mice body composition and glucose parameters will be in the standard Microsoft excel binary format (.xls). Fecal microbiome sequencing data will be prepared using the R-package into figures in .pdf format and Ms. excel (.xls) format. Flow cytometry data will be generated via the BD FACSaria III with figures and cell counts produced in .pdf and excel (.xls) files respectively. Data from qPCR will also be generated and stored in .xls format. Images generated via immunoblotting will be quantified using the UNScanIt software and with data stored in .jpg and .xls formats. Furthermore, data generated from histological slides of the ileum and colon will be enhanced for resolution (600 dpi) for publication purposes using the inkscape software will be produced in .PNG formats and stored.

Data Storage and Preservation

Scientific data should be stored in a safe environment with adequate measures taken for its long-term preservation. Applicants should describe plans for storing and preserving their data during and after the project and specify the data repositories, if they exist. They should outline strategies, tools, and contingency plans that will be used to avoid data loss, degradation, or damage.

Overall, all data initially obtained on paper (e.g mice body composition, food intake, blood glucose) will be neatly arranged and stored in clearly-labelled folders, in addition to storage in spreadsheet format (.xls). The fecal microbiome data from our partner (Second Genome Solutions, CA) will be

deposited at a secured website (http://secondgenome.com/index.php/ldap_login/), where the PD can securely login and download the data using a username and password provided by the company. To ensure long-term preservation and accessibility, all raw digital files will be stored and backed up on 2 individual external hard drives, while analyzed files will be backed up frequently.

Data Sharing and Public Access

Describe your data access and sharing procedures during and after the grant. Provide any restrictions such as copyright, confidentiality, patent, appropriate credit, disclaimers, or conditions for use of the data by other parties.

Project data will be summarized in publications and oral presentations at various conferences with representative images and other data displayed. Publications arising from this study will be made available to the public if allowed by copyright agreements. If copyright agreements do not allow for open access, individual data or publication in manuscript form will be made available upon request. The PD and Co-PDs will freely share available data as needed. There are no privacy or ethical issues involved in sharing this data with the public. Each of the formats (.xsl, .pdf, .jpeg, .PNG) by which the data will be archived can be used with ease by anyone requesting access.

Roles and Responsibilities

Who will ensure DMP implementation? This is particularly important for multi-investigator and multi- institutional projects. Provide a contingency plan in case key personnel leave the project. Also, what resources will be needed for the DMP? If funds are needed, have they been added to the budget request and budget narrative? Projects must budget sufficient resources to develop and implement the proposed DMP.

The PD will be responsible for ensuring the implementation of the data management plan for this study. Each researcher in this study will be mandated to maintain an updated lab notebook which will detail each step of the proposed research for ease of data management. By timely cordination with the Co-PDs, the PD will ensure proper handling of data and archiving, making data relatively easy for future access and sharing.

Monitoring and Reporting

Successful projects should monitor the implementation of the DMP throughout the life of the project and after, as appropriate. Implementation of the DMP should be a component of annual and final reports to NIFA (REEport) and include progress in data sharing (publications, database, software, etc.). The final report should also describe the data that was produced during the award period and the components that will be stored and preserved (including the expected duration) after the award ends.

The proposed study will be monitored adequately by the PD as specified by NIFA. The PD will take responsibility for reviewing and revising the data management plan during the duration of the grant and at least 7 years after the end of the grant.