Data Management Plan

A Data management plan created using the DMPTool

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Last modified: July 14, 2016

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Data Management Plan

Expected Data Type

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

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

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

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

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

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.