

Plan Overview

A Data Management Plan created using DMPTool

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Title: Data Management with the Broad Institute's Data Use Oversight System (DUOS)

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Template: NIH-GDS: Genomic Data Sharing

Project abstract:

The Data Use Ontology System (DUOS), developed by the Broad Institute in conjunction with the NIH, is a mechanism for making data publicly available and managing access requests from secondary researchers. DUOS is a semi-automated system aimed at streamlining dataset registration and access requests guided by the Global Alliance for Genomics and Health (GA4GH) Data Use Ontology (DUO). DUO utilizes standardized terminology to codify the allowed uses of a dataset and align these with a secondary researcher's intended use case. This is achieved through both human and machine-readable data use terms that are used to tag a dataset, as well as a researcher's access request application. Primary researchers can use the Broad Institute's data access committee (DAC) to manage requests for access to their dataset from secondary researchers. This DMP is a mock research project for the purpose of creating a template DMP for researchers looking to use DUOS for their data management.

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Data Management with the Broad Institute's Data Use Oversight System (DUOS)

Data type

- Explain whether the proposed research involves human data, non-human data, or both.
- List the type(s) of genomic data that will be shared (e.g., sequence, transcriptomic, epigenomic, and/or gene expression data) and whether it is individual-level data, aggregate-level data, or both.
- List any other information such as relevant associated data (e.g., phenotype or exposure data) and information necessary to interpret the data (e.g., study protocols, data collection instruments, survey tools) that the investigator anticipates sharing.

The proposed research involves single-cell RNA sequencing data of melanoma tumor samples from 100 mouse-model individuals. In this study, we also plan to generate novel QC methods and pipelines for analysis which we also plan to share. The full study protocol and methods for collection will be included in our publication along with information for requesting access to the controlled access human data.

Data repositories

Identify the repository or repositories where the investigator plans to submit genomic data.

- **Human data:**
 - **Studies generating human genomic and any associated phenotypic data must use an NIH-designated data repository for submission.**
 - **Plans must include whether the data will be available through unrestricted or controlled-access repositories.**
 - **If data cannot be submitted to an NIH-designated repository, see [Request for an Alternative Data Sharing Plan](#).**
- **Non-human data: Studies generating non-human genomic data may use any widely available repository as appropriate for the data.**

We aim to generate single-cell RNA sequencing data for 100 individuals with melanoma. For genomic data generated from this study, our Data Management Specialist will organize and share our data under controlled-access procedures by registering our data in the Broad Institute's DUOS (Data Use Oversight System), which is being piloted by the NIH, and leverage our institution's DAC. The DAC will receive and review data access requests and ensure that it is being used in accordance with the restrictions outlined in the consent forms for our study.

We aim to generate novel QC methods for preparing single-cell RNA sequencing data for analysis

under this study, and plan to share these tools publicly. For the code and other materials associated with this study, we will share via open-access procedures by registering our data and tools in the Broad Institute's DUOS (Data Use Oversight System), so researchers are able to find and navigate them directly for personal download. All software and tools generated and shared will be available along with documentation for deployment and use.

Data Submission and Release Timeline

Provide a timeline for how genomic data will be shared in a timely manner.

Once generated and analyzed, our data will be deposited in the Terra system developed by the Broad Institute. Once this is complete, we will submit a dataset submission form to DUOS containing the data use limitations for our dataset to be approved by our institution's data access committee. Once this request is approved, secondary researchers will be able to request access to the dataset via DUOS, and these requests will be processed by the committee. We will serve as data custodians for the dataset, in that we will be responsible for providing data access to researchers who are approved by our data access committee.

Institutional Review Board (IRB) Review of Institutional Certification

Human data only: IRB review of the investigator's proposal for data submission is an element of the Institutional Certification, which assures that the proposal for data submission and sharing is appropriate.

We are using non-human data.

Appropriate Uses of the Data

Describe any limitations on the use of the data. These limitations should be decided by the submitting investigator and their institution, in consultation with the IRB or equivalent body. They should be based on the language in the informed consent form or the recommendations of an IRB or equivalent body.

One limitation on the secondary use of this data is that it is only to be used for further research on cancer. Additionally, it is required that secondary researchers agree to collaborate with the original study team in any future research.

Statement of Designation of Genomic Summary Results (GSR)

Investigators should indicate if a study should be designated as “sensitive” or “not sensitive” for the purposes of access to GSR. This designation should be confirmed in the Institutional Certification Form.

The study can be designated as "not sensitive" as it does not contain identifiable human data.
