

DMP title

Project Name Drosophila Genetics - BBSRC Example

Description This project will investigate the role of Polo kinase in metaphase to anaphase transition in *Drosophila melanogaster*.

Funder Biotechnology and Biological Sciences Research Council

Institution University of Glasgow

Data areas and data types

Outline the volume, type and content of data that will be generated e.g. experimental measurements, models, records and images

This project will generate three main types of raw data.

1. Images from transmitted-light microscopy of giemsa-stained squashed larval brains.
2. Images from confocal microscopy of immunostained whole-mounted larval brains.
3. Western blot data.

Measurements and quantification of the images will then be recorded in spreadsheets.

Micrograph data is expected to total between 100GB and 1TB over the course of the project.

Scanned images of western blots are expected to total around 1GB over the course of the project.

Other derived data (measurements and quantifications) are not expected to exceed 10MB.

Standards and metadata

Outline the standards and methodologies that will be adopted for data collection and management, and why these have been selected

All samples on which data are collected will be prepared according to published standard protocols in the field. All microscopes used for sample examination are serviced and recalibrated regularly. All *Drosophila* lines used in experiments are checked periodically for phenotypic markers. *Drosophila* are maintained in live culture according to standard methods in the field.

Files will be named according to a pre-agreed convention. The dataset will be accompanied by a README file which will describe the directory hierarchy and filenaming convention.

Each directory will contain an INFO.txt file describing the experimental protocol used in that experiment. It will also record any deviations from the protocol and other useful contextual information.

Microscope images capture and store a range of metadata (field size, magnification, lens phase, zoom, gain, pinhole diameter etc) with each image.

This should allow the data to be understood by other members of our research group and add contextual value to the dataset should it be reused in the future.

Relationship to other data

State the relationship to other data available in public repositories

This dataset will provide a novel characterisation of *Drosophila* Polo kinase mutants documented in the Flybase database. To the best of my knowledge, no other study has perturbed the metaphase to anaphase transition in these mutants, then examined the

phenotypes seen in mitosis.

Secondary Use

Outline the further intended and/or foreseeable research uses for the completed dataset(s)

The confocal and transmitted light images generated in this work may well be of use in the future. It is entirely possible that another study would want to measure a different aspect of mitosis in *Drosophila* (both the wild-type controls and the mutants) treated as per the protocols in this study.

I cannot see the western blot data being of future use.

Methods for data sharing

Outline the planned mechanisms for making these data available, e.g. through deposition in existing public databases or on request, including access mechanisms where appropriate

Datasets from this work which underpin a publication will be deposited in Enlighten: Research Data, the University of Glasgow's institutional data repository, and made public at the time of publication. Data in the repository will be stored in accordance with funder and University data policies. Files deposited in Enlighten: Research Data will be given a Digital Object Identifier (DOI) and the associated metadata will be listed in the University of Glasgow Research Data Registry and the DataCite metadata store. The retention schedule for data in Enlighten: Research Data will be 10 years from date of deposition in the first instance, with extensions applied to datasets which are subsequently accessed. This complies with both University of Glasgow guidance and funder policies.

Enlighten: Research Data is backed by commercial digital storage with is audited on a twice-yearly basis for compliance with the ISO27001 Information Security Management standard.

The DOI issued to datasets in the repository can be included as part of a data citation in publications, allowing the datasets underpinning a publication to be identified and accessed. DOIs will also be linked with appropriate records in Enlighten: Publications, the University's publication repository, to enhance visibility of datasets.

Metadata about datasets held in the University Registry will be publicly searchable and discoverable and will indicate how and on what terms the dataset can be accessed.

Information about datasets from the Registry will be displayed on researcher profile pages on the University of Glasgow webpages which will also increase the visibility of the datasets.

Proprietary data

Outline any restrictions on data sharing due to the need to protect proprietary or patentable data

It is not anticipated that this study will generate any patentable data or proprietary data which would have to be protected.

Timeframes

State the timescales for public release of data

Data will be made available at the point of publication of the associated paper or publication.

Formats

State the format of the final dataset

Images will be stored as .tif

Data in spreadsheets will be stored as .csv

Data in freetext documents will be stored as .txt.

These formats are platform agnostic and should support future access and reuse.

Any data which has to be stored in a proprietary format will have the necessary software (including version number) noted in the associated INFO.txt file.