UKRI/MRC Data Management Plan

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| 0. Proposal name |
| Investigating the effects of therapeutic agents on stem cell populations in childhood leukaemia |
| 1. Description of the data |
| 1.1. Type of study In this **study** we will investigate the effects of therapeutic agents on cells from children with acute lymphoblastic leukaemia. We will also characterise the cells that may be responsible for initiating and maintaining this malignancy. 1.2. Types of data Quantitative data derived from our experimental approaches and statistical analyses of these data will be managed along with Genotypic data from results of our microarray studies. There will also be administrative data on linked anonymised tissue samples and storage locations of the samples. 1.3. Format and scale of the data Data will initially be collected in a variety of file formats, mainly Microsoft Excel for databases, MS Word and equipment specific software such as FlowJo for flow cytometry data. Graph Pad prism will be used to generate graphs and conduct statistical analyses. Presentations will usually be compiled using MS Powerpoint. These files will also be stored in Open Document Format or as .CSV files, for spreadsheets, to enable sharing. Digital images will be saved as .TIFF files for this purpose. |
| 2. Data collection / generation |
| 2.1. Methodologies for data collection / generation Data will be generated from the outlined experimental protocols, mainly by flow cytometric analysis, using FlowJo software. FlowJo permits analyses of such data and generation of figures. These can be exported directly to Excel, Powerpoint or saved in acceptable formats for sharing and re-use, as defined by the UK Data Archive. The information generated in the planned experiments will be added to our existing data sets which contain information of the ability of particular patient samples to engraft, the response of these samples to therapeutic agents, the frequency of stem cell populations in particular samples. This will enable us to build a large dataset of information, which will be invaluable for the current grant proposal, future proposals and for work with collaborators. 2.2. Data quality and standards Such standards will be met through using equipment, which is calibrated, at regular intervals in accordance with good laboratory practice e.g. daily calibration of flow cytometers and incubators to minimise variation due to equipment. Equipment calibration is logged and monitored using Q-pulse document control system. Data capture will be standardised using appropriate software e.g. FlowJo can directly export data generated in other file formats, thus avoiding errors through manual input of data. Where manual input is the only option, consistency will be maintained through peer review and cross checking the results with existing measurements. |
| 3. Data management, documentation and curation |
| 3.1. Managing, storing and curating data All data will be backed up immediately after generation onto the University of Bristol Research Data Storage Facility (RDSF). The RDSF provides secure, long-term storage for research data. This two million pound investment provides nightly backup of all data, with further resilience provided by three geographically distinct storage locations. A tape library is used for backup purposes and also for long-term, offline data storage. Only authorised users can access data stored within the RDSF.  The RDSF is managed by Bristol's Advanced Computing Research Centre (ACRC) which has a dedicated steering group and a rigorous data storage policy (<https://www.acrc.bris.ac.uk/acrc/RDSF_policy.pdf>). The RDSF upholds and reinforces Bristol's wider Information Security Policy (<http://www.bristol.ac.uk/medialibrary/sites/infosec/documents/ISP-01v1.2.pdf>). 3.2. Metadata standards and data documentation Methods used to generate the data will be described as standard operating procedures in an open file format. Metadata information on sample ID, instrument settings, experimental variables, operator ID are already captured for every sample run on the flow cytometer and can be easily exported to open file format. 3.3. Data preservation strategy and standards Data will be stored in the RDSF for at least 20 years. Any data selected for publication in the Research Data Repository (see below) will also be publicly available for 20 years. |
| 4. Data security and confidentiality of potentially disclosive personal information |
| 4.1. Formal information / data security standards Our Ethical review allows collection of linked anonymised data from patient samples. No personal data will be included in our data and therefore there is no risk of disclosure of personal information. 4.2. Main risks to data security Not yet answered... |
| 5. Data sharing and access |
| 5.1. Suitability for sharing Yes. 5.2. Discovery by potential users of the research data New users can find out about our data through CLR-UK meetings and through the publication of our datasets in the University of Bristol Research Data Repository (data.bris). The data.bris Research Data Repository offers a means for Bristol's researchers to openly share non-confidential research data, without the need for external data users to undergo any form of authentication. Each deposit is accompanied by appropriate metadata and is assigned a unique Digital Object Identifier (DOI) via the DataCite scheme, allowing it to be cited in publications. 5.3. Governance of access Data will be publicly available through the data.bris repository, published under a permissive re-use license. 5.4. The study team's exclusive use of the data Our intended policy is that the team should have exclusive use of the data for a period of 12 months or until the data is published or patent applications have been filed. Data will be shared with named collaborators during this time. 5.5. Restrictions or delays to sharing, with planned actions to limit such restrictions Delays to the above data sharing policy may only arise through IPR. We will seek advice from the University Research and Enterprise Development Office if we think an output is worthy of registering as IPR. This consultation will take place prior to any publication or disclosure of results. 5.6. Regulation of responsibilities of users N/A |
| 6. Responsibilities |
| The PI and the senior members of their laboratory will be responsible for verifying data is accurate and records are up to date. Staff from the Advanced Computing Research Centre, Research Enterprise and Development and the Research Data Service will assist with data storage, curation and sharing. |
| 7. Relevant institutional, departmental or study policies on data sharing and data security |
| | Policy | URL or Reference | | --- | --- | | Data Management Policy & Procedures | <http://www.bristol.ac.uk/research/environment/governance/research-data-policy/> | | Data Security Policy | <https://www.acrc.bris.ac.uk/acrc/RDSF_policy.pdf> | | Data Sharing Policy | <http://www.nationalarchives.gov.uk/doc/non-commercial-government-licence/version/2/> | | Institutional Information Policy | <http://www.bristol.ac.uk/media-library/sites/infosec/documents/ISP-01v1.2.pdf> | | Example policy 1 | <https://example.com/policy/1> | | Example policy 2 | <https://example.com/policy/2> | |
| 8. Author of this Data Management Plan |
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