Investigating the contribution of liquid-liquid phase separation of KIF5A to amyotrophic lateral sclerosis
Application DMP

Questionnaire

The questions in this section should only be answered if you are currently applying for FWO funding.
Are you preparing an application for funding?

- No

DPIA

Have you performed a DPIA for the personal data processing activities for this project?

- Not applicable

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GDPR

Have you registered personal data processing activities for this project?

- Yes

1. Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

Dataset Name	Description	*Only for digital data* New or Reused	*Only for digital data* Digital or Physical	*Only for digital data* Digital Data Type	Digital Data Format	Digital Data Volume (MB, GB, TB)	*Only for physical data* Physical Volume
Microscopy data	Immunofluorescence of in vitro and in vivo experiments. Raw data, analysed images and analysed data	☒ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☒ Images ☐ Sound ☒ Numerical ☐ Textual ☐ Model ☐ Software	.tiff .xls .LIF	☐ < 1 GB ☐ < 100 GB ☒ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	
Omics data	Transcriptomic and proteomic raw data and analysis	☒ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☐ Images ☐ Sound ☒ Numerical ☒ Textual ☐ Model ☐ Software	.seq .fastq .xls	☐ < 1 GB ☐ < 100 GB ☐ < 1 TB ☒ < 5 TB ☐ > 5 TB ☐ NA	
Western Blot data	Raw gels and analysed images and data	☒ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☒ Images ☐ Sound ☒ Numerical ☐ Textual ☐ Model ☐ Software	.tiff .jpeg .xls	☒ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	

Data type	Description	Origin	Format	Data type (content)	File format	Volume	
Experimental readouts	Raw and analysed data from software equipement (eg. Victor Nivo, nanodrop, etc)	☒ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☐ Images ☐ Sound ☒ Numerical ☐ Textual ☐ Model ☐ Software	.xls	☒ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	
Chemicals and antibodies	Database containing the information of the chemicals and antibodies used in the project	☒ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☐ Images ☐ Sound ☐ Numerical ☐ Textual ☐ Model ☐ Software	.docx .pdf	☒ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	
Standard operating procedures and risk assessment	Information about the procedures used in the project	☒ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☐ Images ☐ Sound ☐ Numerical ☐ Textual ☐ Model ☐ Software	.docx .pdf	☒ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	
Manuscript	All manuscript published related to the project including figure files	☒ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☐ Images ☐ Sound ☐ Numerical ☐ Textual ☐ Model ☐ Software	.docx .ai .tiff	☒ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	

Samples inventory	Lists of all samples collected during the project with all information and localization in the lab	☒ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☐ Images ☐ Sound ☐ Numerical ☐ Textual ☐ Model ☐ Software	.docx .xls	☒ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	
Graphs and statistics	Graphical representations and statistical analysis performed with GraphPad prism software	☐ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☒ Images ☐ Sound ☒ Numerical ☒ Textual ☐ Model ☐ Software	.pzfx .xls .jpeg .tiff .ai	☒ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	
Cell lines	Storage of cell lines in liquid nitrogen	☒ Generate new data ☐ Reuse existing data	☐ Digital ☒ Physical	☐ Audiovisual ☐ Images ☐ Sound ☐ Numerical ☐ Textual ☐ Model ☐ Software		☐ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☒ NA	4 boxes of 81 tubes each
Cell pellets	Cell pellets collected in 1.5ml Eppendorfs or 15ml falcons for protein work, omics analysis and storage	☒ Generate new data ☐ Reuse existing data	☐ Digital ☒ Physical	☐ Audiovisual ☐ Images ☐ Sound ☐ Numerical ☐ Textual ☐ Model ☐ Software		☐ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☒ NA	10-20 boxes of 81 tubes in the freezer -80°C+++++++++++++++++++++++++++++++.

PFA or MeOH-fixed cells	Cells fixed with PFA or MeOH in 24-well plates and mounted on slides for microscopy	☒ Generate new data ☐ Reuse existing data	☐ Digital ☒ Physical	☐ Audiovisual ☐ Images ☐ Sound ☐ Numerical ☐ Textual ☐ Model ☐ Software		☐ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☒ NA	10-20 plates stored in the cold room (4°C) and 10 boxes containing 20 slides
cDNA samples	Tubes containing cDNA	☒ Generate new data ☐ Reuse existing data	☐ Digital ☒ Physical	☐ Audiovisual ☐ Images ☐ Sound ☐ Numerical ☐ Textual ☐ Model ☐ Software		☐ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☒ NA	4 boxes of 81 tubes each
DNA sequencing files	Sequences of plasmids, of PCR products and genomic sequences by LGC genomics	☒ Generate new data ☐ Reuse existing data	☒ Digital ☐ Physical	☐ Audiovisual ☒ Images ☐ Sound ☒ Numerical ☒ Textual ☐ Model ☐ Software	.abi	☒ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

DOI

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? Describe these issues in the comment section. Please refer to specific datasets or data types when appropriate.

- Yes, human subject data

S67294 for working with human cells
S60803 for use of post-mortem tissue

Will you process personal data? If so, briefly describe the kind of personal data you will use in the comment section. Please refer to specific datasets or data types when appropriate.

- No

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, …)? If so, please comment per dataset or data type where appropriate.

- Yes

We do not exclude that the proposed work could result in research data with potential for tech transfer- and valorization. VIB has a policy to actively monitor research data for such potential. If there is substantial potential, the invention will be thoroughly assessed, and in a number of cases the invention will be IP protected (mostly patent protection or copyright protection). As such the IP protection does not withhold the research data from being made public. In the case a decision is taken to file a patent application it will be planned so that publications need not be delayed.

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material/Data transfer agreements/ research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- No

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

2. Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g., in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, Codebook.tsv etc. where this information is recorded).

Metadata will be documented by the research and technical staff at the time of data collection and analysis, by taking careful notes in the electronic laboratory notebook that refer to specific datasets.
In addition, all related data will be stored, including data presented in congress, meetings, scientific events etc, manuscripts drafts and final versions.
All datasets will be accompanied by a README.txt file containing all the associated metadata.

Will a metadata standard be used to make it easier to find and reuse the data? If so, please specify (where appropriate per dataset or data type) which metadata standard will be used. If not, please specify (where appropriate per dataset or data type) which metadata will be created to make the data easier to find and reuse.

- Yes

While specific data types might require particular metadata, as a general rule the metadata will be based on a generalized metadata schema such as Dublin Core or DataCite, including the following elements:
• Title: free text
• Creator: Last name, first name, organization
• Date and time reference
• Subject: Choice of keywords and classifications
• Description: Text explaining the content of the data set and other contextual information needed for the

correct interpretation of the data, the software(s) (including version number) used to produce and to read the data, the purpose of the experiment, etc.

• Format: Details of the file format,

• Resource Type: data set, image, audio, etc.

• Identifier: DOI (when applicable)

• Access rights: closed access, embargoed access, restricted access, open access.

For specific datasets, additional metadata will be associated with the data file as appropriate such as experimental procedures to generate transcriptomic data.

The final dataset will be accompanied by this information under the form of a README.txt document. This file will be located in the top level directory of the dataset and will also list the contents of the other files and outline the file-naming convention used. This will allow the data to be understood by other members of the laboratory and add contextual value to the dataset for future reuse.

3. Data storage & back-up during the research project

Where will the data be stored?

- ManGO
- Large Volume Storage (L drive)
- Personal network drive (I drive)

How will the data be backed up?

Standard back-up provided by KU Leuven ICTS for my storage solution

Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely.
If no or insufficient storage or backup capacities are available, then explain how this will be taken care of.

- Yes

More than 1000 TB are available, which is enough to cover the entire project.

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

Both the L-drive and J-drive servers are accessible only by laboratory members, and are mirrored in the second ICTS datacenter for business continuity and disaster recovery so that a copy of the data can be recovered within an hour.

Access to the digital vault is possible only through using a KU Leuven user-id and password, and user rights only grant access to the data in their own vault. Sensitive data transfer will be performed according to the best practices for "Copying data to the secure environment" defined by KU Leuven. The operating system of the vault is maintained on a monthly basis, including the application of upgrades and security patches. The server in the vault is managed by ICTS, and only ICTS personnel (bound by the ICT code of conduct for staff) have administrator/root rights. A security service monitors the technical installations continuously, even outside working hours.

What are the expected costs for data storage and backup during the research project? How will these costs be covered?

Each year €738 will be charged from our ICT service for the use of 5 TB on the L-drive (long term storage). Back-up service is included in the price. These costs are included in the lab budget.

4. Data preservation after the end of the research project

Which data will be retained for at least five years (or longer, in agreement with other retention policies that are applicable) after the end of the project? In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

All data will be preserved for 10 years according to KU Leuven RDM policy

Where will these data be archived (stored and curated for the long-term)?

- KU Leuven RDR
- Large volume storage (longterm for large volume)

What are the expected costs for data preservation during the expected retention period? How will these costs be covered?

The K-drive (data archive) storage space of 1 TB is foreseen and will cost €128 each year, this is also expandable in blocks of 100 GB. These costs are included in the lab budget.

5. Data sharing and reuse

Will the data (or part of the data) be made available for reuse after/during the project? In the comment section please explain per dataset or data type which data will be made available.

- Other, please specify:

the datasets will be available upon request, after publication

If access is restricted, please specify who will be able to access the data and under what conditions.

any academic researcher, upon request after publication.

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)? Please explain in the comment section per dataset or data type where appropriate.

- No

Where will the data be made available? If already known, please provide a repository per dataset or data type.

- KU Leuven RDR
- other data repository

Data submission wizards such as EMBL-EBI (www.ebi.ac.uk/submission) will be used to choose the right archive for the data generated in this project. When possible, data will be published as supplemental data files

When will the data be made available?

Upon publication of research results

Which data usage licenses are you going to provide? If none, please explain why.

CC-BY 4.0 (data)

Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, you have the option to provide it in the comment section.

- No

What are the expected costs for data sharing? How will these costs be covered?

Data management costs will be minimized by implementing standard procedures e.g. for metadata collection and file storage and organization from the start of the project, and by using free-to-use data repositories and dissemination facilities whenever possible. Data management costs will be covered by the laboratory budget.

6. Responsibilities

Who will manage data documentation and metadata during the research project?

Valérie Bercier (FWO fellow), Ludo Van Den Bosch (PI), Nicole Hersmus (Lab Manager)

Who will manage data storage and backup during the research project?

The research and technical staff will ensure data storage and back up, with support from René Custers and Alexander Botzki for the electronic laboratory notebook and from Raf De Coster for the KU Leuven drives.

Who will manage data preservation and sharing?

The PI is responsible for data preservation and sharing, with support from the research and technical staff involved in the project, from René Custers and Alexander Botzki for the electronic laboratory notebook and from Raf De Coster for the KU Leuven drives.

Who will update and implement this DMP?

Valérie Bercier (FWO fellow) with Ludo Van Den Bosch (PI) bear the end responsibility of updating & implementing this DMP.