EXPLORING THE POTENTIAL OF NORMOTHERMIC MACHINE PERFUSION TO RECONDITION TRANSPLANT LIVERS USING PARACRINE FACTORS OF HUMAN LIVER STEM CELLS, AND TO SAFELY INCREASE TRANSPLANTATION OF HIGH-RISK HUMAN LIVERS

A Data Management Plan created using DMPonline.be

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Application DMP

Questionnaire

Describe the datatypes (surveys, sequences, manuscripts, objects …) the research will collect and/or generate and /or (re)use. (use up to 700 characters)

New data will be collected from in vivo experiments (pigs).
Datatypes: We will collect data ranging from quantitative, experimental, and derived data. Electronic notebooks will be used so a secondary analyst can retrace steps. Tissue
samples will require storage. Raw data will be processed in type-specific software (GraphPad, statistical software,...)
Data formats: .txt, .csv, .docx, .xlsx, .pttx, .pzfx, .tiff, .png, .jpeg, .pdf
estimated volume: 5 TB

Specify in which way the following provisions are in place in order to preserve the data during and at least 5 years after the end of the research? Motivate your answer. (use up to 700 characters)

1. Designation of responsible person (If already designated, please fill in his/her name.)
2. Storage capacity/repository
    - during the research
    - after the research

The responsible person is the PI of the project, Diethard Monbaliu.
We will preserve our data through the institutional (KULeuven) or central servers. The university and department infrastructure is able to provide sufficient capacity with backup and this for the period of 5 years after the end of the project.

What’s the reason why you wish to deviate from the principle of preservation of data and of the minimum preservation term of 5 years? (max. 700 characters)

Are there issues concerning research data indicated in the ethics questionnaire of this application form? Which specific security measures do those data require? (use up to 700 characters)

Data from animal experiments is stored on the University's central servers with automatic daily backup procedures: Secured networkdrive KU Leuven (J-schijf).
Data on the KU Leuven networks is only accessible for researchers with personalized KU Leuven login and password, and thus secured by a strict access right management controlled by the PI. Donor specific data will be stored with password security only accessable for researchers involved in the projects and controlled by the PI .

Which other issues related to the data management are relevant to mention? (use up to 700 characters)

Question not answered.

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FWO DMP (Flemish Standard DMP)

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.

				Only for digital data	Only for digital data	Only for digital data	Only for physical data
Dataset Name	Description	New or reused	Digital or Physical	Digital Data Type	Digital Data format	Digital data volume (MB/GB/TB)	Physical volume
		Please choose from the following options: • Generate new data • Reuse existing data	*Please choose from the following options:* • Digital • Physical	*Please choose from the following options:* • Observational • Experimental • Compiled/aggregated data • Simulation data • Software • Other • NA	*Please choose from the following options:* • .por, .xml, .tab, .csv,.pdf, .txt, .rtf, .dwg, .gml, ... • NA	*Please choose from the following options:* • <100MB • <1GB • <100GB • <1TB • <5TB • <10TB • <50TB • >50TB • NA	
Perfusion parameters	Perfusion parameters : - pressure - flow - temperature	Generate new data	Digital	Experimental	.xlsx	<100MB	
Animal data	Weight of animal and liver	Generate new data	Digital	Observational	.xlsx	<100MB	
Blood gas	Blood gas analyses : p02,pH, lactate, glucose,...	Generate new data	Digital	Experimental	.xlsx	<100MB	
Cytokines	Inflammation parameters by ELISA	Generate new data	Digital	Experimental	.xlsx	<100MB	
qPCR	qPCR analyses	Generate new data	Digital	Experimental	.lc96u .lc96p .csv .xlsx	<100MB	
Imaging	IHC and TUNEL staining	Generate new data	Physical and digital	Experimental	.jpg .tiff	<100GB	1 box

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:

Question not answered.

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, animal data

Ethical approval is obtained via the KU Leuven Animal Ethics Committee for the use of animals

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.

- No

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.

- Yes

Prior notice of any planned publication shall be given by KU Leuven to Unicyte before the publication. Any objection to the planned publication shall be made in writing to KU Leuven within 20 calendar days after receipt of the notice. If no objection is made within the time limit stated above, the publication is deemed permitted.

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).

We will collect data from in vivo experiments ranging from quantitative, experimental, and derived data. Electronic notebooks will be used so a secondary analyst can retrace steps.
Research methods and practices will be fully documented. Details on the setting of the data collection will be documented.

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.

- No

All original data are stored in an open standard format.
Data management is also provided in either Onenote, Onedrive, ELN or hard copy lab notebooks. We also document in Excel spreadsheets and Word, plus make our final figures for publication in GraphPad Prism or SPSS.
Other lab members will have access to the data for the entire duration of this specific project. We guarantee handover of data to the PI upon departure of the involved PhD/postdocs.
We will provide all necessary details that will help others to find the data, including who created or contributed to the data, the title of the dataset, and the date of creation. We will provide supplementary materials to peer-reviewed manuscripts to increase the transfer of all details. Documentation will also include details on the methodology used, analytical and procedural information, definitions of variables, vocabularies, units of measurement, and the format and the file type of the data.

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

Where will the data be stored?

All generated files are stored and backed up to a server monitored by the KU Leuven IT department on a central NAS server.

How will the data be backed up?

The data is daily backed up automatically.

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

There is enough storage capacity on the shared drive of the university and extra capacity can be requested if necessary.

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

Access to the shared drive is managed by the PI or his/her delegate. All access is through multifactor authentication.

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

The expected cost will be maximally 200€. This is budgeted in the project.

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 research data can be retained for at least five years in the above mentioned shared drives.

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

All research data can be retained for at least five years in the above mentioned shared drives.

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

This will be 5 years 200€, so 1000€. This is covered by the 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.

- Yes, in an Open Access repository

All technical and research data will be protected adequately before sharing. We will publish all material either in journals or in repositories, except for novel data, unprotected by IP. Data will be made available for reuse through a general repository such as zenodo.

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

Question not answered.

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

When will the data be made available?

Data will be made available upon publication of research results

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

Question not answered.

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?

No costs

6. Responsibilities

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

The PI of the project.

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

The PI of the project.

Who will manage data preservation and sharing?

The PI of the project.

Who will update and implement this DMP?

The PI of the project.

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GDPR

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Have you registered personal data processing activities for this project?

- No

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DPIA

DPIA

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

- Not applicable