

FWO DMP Template - Flemish Standard Data Management Plan

Version KU Leuven

Project supervisors (from application round 2018 onwards) and fellows (from application round 2020 onwards) will, upon being awarded their project or fellowship, be invited to develop their answers to the data management related questions into a DMP. The FWO expects a **completed DMP no later than 6 months after the official start date** of the project or fellowship. The DMP should not be submitted to FWO but to the research co-ordination office of the host institute; FWO may request the DMP in a random check.

At the end of the project, the **final version of the DMP** has to be added to the final report of the project; this should be submitted to FWO by the supervisor-spokesperson through FWO's e-portal. This DMP may of course have been updated since its first version. The DMP is an element in the final evaluation of the project by the relevant expert panel. Both the DMP submitted within the first 6 months after the start date and the final DMP may use this template.

The DMP template used by the Research Foundation Flanders (FWO) corresponds with the Flemish Standard Data Management Plan. This Flemish Standard DMP was developed by the Flemish Research Data Network (FRDN) Task Force DMP which comprises representatives of all Flemish funders and research institutions. This is a standardized DMP template based on the previous FWO template that contains the core requirements for data management planning. To increase understanding and facilitate completion of the DMP, a standardized **glossary** of definitions and abbreviations is available via the following [link](#).

1. General Project Information	
Name Grant Holder & ORCID	<i>Finn Segers(ORCID https://orcid.org/0000-0003-1704-7334)</i>
Contributor name(s) (+ ORCID) & roles	<i>Michel Delforge (ORCID https://orcid.org/0000-0002-0147-2291), promotor Kim De Keersmaecker (ORCID https://orcid.org/0000-0002-7420-9531), co-promotor Stephanie Humblet-Baron (ORCID https://orcid.org/0000-0003-4684-069X), co-promotor</i>
Project number ¹ & title	<i>KU Leuven PhD project nr 3M230379 Optimizing Bispecific Antibody treatment in Multiple Myeloma: Microenvironment and Cellular Mechanisms of Drug resistance.</i>
Funder(s) GrantID ²	<i>FWO grant 1SHDM24N</i>
Affiliation(s)	<input checked="" type="checkbox"/> KU Leuven <input type="checkbox"/> Universiteit Antwerpen <input type="checkbox"/> Universiteit Gent <input type="checkbox"/> Universiteit Hasselt <input type="checkbox"/> Vrije Universiteit Brussel <input type="checkbox"/> Other: ROR identifier KU Leuven: 05f950310

¹ “Project number” refers to the institutional project number. This question is optional. Applicants can only provide one project number.

² Funder(s) GrantID refers to the number of the DMP at the funder(s), here one can specify multiple GrantIDs if multiple funding sources were used.

Please provide a short project description	<p><i>Patients with relapsed refractory (RR) multiple myeloma (MM) have an unmet need for better treatment strategies. T cell redirecting strategies such as bispecific antibodies (bsAb) are a new and important therapy for those patients. T cell redirecting strategies used in MM target B cell maturation antigen (BCMA) and the orphan receptor GPRC5D amongst others. Despite their impressive therapeutic efficacy, there is still an important knowledge gap regarding predictive factors for response and adverse events such as cytokine release syndrome (CRS) and infections, and optimal preventive measures during treatment with bsAb. Differences in the stromal bone marrow environment and circulating immune repertoire are thought to be responsible for variation between patients. In this research project we will perform detailed immune analysis in blood from RR MM patients who are treated with bsAb and after VZV vaccination to identify the most important factors that are contributing to vaccine response, bsAb response, CRS and infections. In-depth serological analysis and advanced immune profiling by flow cytometry will be performed on blood at regular intervals. In selected patients, the relationship with the stromal cells will be investigated using multi-iterated immunohistochemistry, spatial transcriptomic analysis and 3-D confocal microscopy will be done on bone biopsies. In addition to the microenvironment, we will also explore novel mechanisms of resistance by studying the downstream signalling pathway of BCMA and GPRC5D. In particular we will analyse gene mutations and altered gene and protein expression of BCMA and attempt to identify the binding partners of GPRC5D. These pathways will be modulated and bsAb tested in co-culture experiments and in-vivo experiments with immunodeficient mice. We believe that this project will create novel insights in the mechanisms contributing to response and resistance of bsAb and therefore can contribute to a more optimal use of these drugs in RR MM.</i></p>
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2. 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	New or Reused	Digital or Physical	ONLY FOR DIGITAL DATA	ONLY FOR DIGITAL DATA	ONLY FOR DIGITAL DATA	ONLY FOR PHYSICAL DATA
				Digital Data Type	Digital Data Format	Digital Data Volume (MB, GB, TB)	Physical Volume
<i>General cell lines</i>	<i>Use of existing human cancer cell lines</i>	<input type="checkbox"/> Generate new data <input checked="" type="checkbox"/> Reuse existing data	<input type="checkbox"/> Digital <input checked="" type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input type="checkbox"/> Images <input type="checkbox"/> Sound <input type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:		<input type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	<i>5-10 cell lines will be stored in liquid nitrogen cryotank for long term (30-100 cryovials).</i>
<i>Cell line experimental data incl. blot images</i>	<i>Experimental results including assay results, PCR results and images from blotting using cell lines</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input checked="" type="checkbox"/> Images <input type="checkbox"/> Sound <input checked="" type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:	<i>.tiff .csv / .xls</i>	<input type="checkbox"/> < 1 GB <input checked="" type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	
<i>Cell line and co-culture flow cytometry data</i>	<i>Output data from flow cytometry experiments using cell lines and co-cultures</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input checked="" type="checkbox"/> Images <input type="checkbox"/> Sound <input checked="" type="checkbox"/> Numerical <input checked="" type="checkbox"/> Textual <input type="checkbox"/> Model	<i>.fcs / .mqd .csv / .xls .tiff</i>	<input type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input checked="" type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	

				<input type="checkbox"/> Software <input type="checkbox"/> Other:			
<i>Proteomics data</i>	<i>Output data from proteomics experiments both from cell lines and patient samples</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input type="checkbox"/> Images <input type="checkbox"/> Sound <input checked="" type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:	<i>.csv / .xls</i>	<input type="checkbox"/> < 1 GB <input checked="" type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	
<i>Public myeloma datasets</i>	<i>Publicly available dataset from clinical study on multiple myeloma (e.g. MMRF CoMMpass)</i>	<input type="checkbox"/> Generate new data <input checked="" type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input checked="" type="checkbox"/> Images <input type="checkbox"/> Sound <input checked="" type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:	<i>.csv / .xls .tiff</i>	<input type="checkbox"/> < 1 GB <input checked="" type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	
<i>Co-culture participant data</i>	<i>Personal information and pseudonymization key</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input type="checkbox"/> Images <input type="checkbox"/> Sound <input checked="" type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:	<i>.csv / .xls</i>	<input checked="" type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	
<i>Modulated cell lines</i>	<i>Generation of modulated isogenic cell lines</i>	<input checked="" type="checkbox"/> Generate new data	<input type="checkbox"/> Digital <input checked="" type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input type="checkbox"/> Images <input type="checkbox"/> Sound		<input type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB	<i>Cell lines modulated starting from commercial cell lines to change</i>

		<input type="checkbox"/> Reuse existing data		<input type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:		<input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	<i>sensitivity to treatment.</i> <i>Liquid nitrogen cryotank for long term storage (30-100 cryovials).</i>
<i>Immunodeficient (NSG) mice</i>	<i>Use of existing immunodeficient mice strains</i>	<input type="checkbox"/> Generate new data <input checked="" type="checkbox"/> Reuse existing data	<input type="checkbox"/> Digital <input checked="" type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input type="checkbox"/> Images <input type="checkbox"/> Sound <input type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:		<input type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	<i>Use of previously established commercially available immunodeficient mice.</i>
<i>Pseudonymized 'blood' study participant data</i>	<i>Clinical data, demographic data, disease data</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input checked="" type="checkbox"/> Images <input type="checkbox"/> Sound <input checked="" type="checkbox"/> Numerical <input checked="" type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:	<i>.csv / .xls .tiff</i>	<input checked="" type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	
<i>'Blood' study participant serology data</i>	<i>Data generated by OLINK, Immunoglobulin levels, complement/Fc binding, glycosylation, opsonophagocytosis</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input checked="" type="checkbox"/> Images <input type="checkbox"/> Sound <input checked="" type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:	<i>.csv / .xls .tiff</i>	<input type="checkbox"/> < 1 GB <input checked="" type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	

	<i>sis killing, ELISA's, ...</i>						
<i>'Blood' study participant cellular data</i>	<i>Data generated by flow cytometry experiments</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input checked="" type="checkbox"/> Images <input type="checkbox"/> Sound <input checked="" type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:	<i>.fcs / .mqd .csv / .xls .tiff</i>	<input type="checkbox"/> < 1 GB <input checked="" type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	
<i>'Blood' study participant blood samples</i>	<i>Serum samples and isolated PBMC's</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input type="checkbox"/> Digital <input checked="" type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input type="checkbox"/> Images <input type="checkbox"/> Sound <input type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:		<input type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	<i>Serum samples and isolated PMBC's from blood samples. Estimated 500 samples of 10mL will be stored.</i>
<i>'Bone' study participant bone biopsy imaging</i>	<i>Regular microscopy imaging, multi-iterated immunohistochemistry and confocal microscopy</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input checked="" type="checkbox"/> Images <input type="checkbox"/> Sound <input type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:	<i>.tiff</i>	<input type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input checked="" type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	
<i>'Bone' study participant bone biopsies</i>	<i>Biological samples</i>	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input type="checkbox"/> Digital <input checked="" type="checkbox"/> Physical	<input type="checkbox"/> Audiovisual <input type="checkbox"/> Images <input type="checkbox"/> Sound		<input type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB	<i>Bone biopsies from participants of study.</i>

				<input type="checkbox"/> Numerical <input type="checkbox"/> Textual <input type="checkbox"/> Model <input type="checkbox"/> Software <input type="checkbox"/> Other:		<input type="checkbox"/> < 5 TB <input type="checkbox"/> > 5 TB <input type="checkbox"/> NA	
<p>GUIDANCE: <i>The data description forms the basis of your entire DMP, so make sure it is detailed and complete. It includes digital and physical data and encompasses the whole spectrum ranging from raw data to processed and analysed data including analysis scripts and code. Physical data are all materials that need proper management because they are valuable, difficult to replace and/or ethical issues are associated. Materials that are not considered data in an RDM context include your own manuscripts, theses and presentations; documentation is an integral part of your datasets and should be described under documentation/metadata.</i> RDM Guidance on data</p>							
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.		<p><i>Human cancer cell lines are commercially available from</i></p> <ul style="list-style-type: none"> - <i>dsmz.de,</i> - <i>atcc.org or</i> - <i>cellbank.nibiohn.go.jp</i> <p><i>Compass MMRF data is available through</i> ncbi.nlm.nih.gov/projects/qap/cgi-bin/collection.cgi?study_id=phs003014.v1.p1</p>					
Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, refer to specific datasets or data types when appropriate and provide the relevant ethical approval number.		<p><input checked="" type="checkbox"/> Yes, human subject data; provide SMEC or EC approval number: <i>S68326 for Co-culture experiments</i> <i>Pending ethical review for clinical study</i></p> <p><input checked="" type="checkbox"/> Yes, animal data; provide ECD reference number: <i>Pending review</i></p> <p><input type="checkbox"/> Yes, dual use; provide approval number:</p> <p><input type="checkbox"/> No</p> <p>Additional information:</p>					

<p>Will you process personal data³? If so, please refer to specific datasets or data types when appropriate and provide the KU Leuven or UZ Leuven privacy register number (G or S number).</p>	<p><input checked="" type="checkbox"/> Yes (provide PRET G-number or EC S-number below) <i>S68326 for Co-culture experiments</i> <i>Pending CTC review for clinical study</i></p> <p><input type="checkbox"/> No</p> <p>Additional information:</p>
<p>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.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, please comment:</p>

³ See Glossary Flemish Standard Data Management Plan

<p>Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material/Data transfer agreements, research collaboration agreements)?</p> <p>If so, please explain to what data they relate and what restrictions are in place.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, please explain:</p> <p>The usage of the Compass public data set is restricted by a Data Use Certification Agreement (DUCA), the most important restrictions are:</p> <ol style="list-style-type: none"> 1. Investigator(s) will use requested datasets solely in connection with the research project described in the approved Data Access Request for each dataset; 2. Investigator(s) will make no attempt to identify or contact individual participants from whom these data were collected without appropriate approvals from the relevant IRBs; 3. Investigator(s) will not distribute these data to any entity or individual beyond those specified in the approved Data Access Request; 4. Investigator(s) will adhere to computer security practices that ensure that only authorized individuals can gain access to data files; 5. Investigator(s) will not submit for publication or any other form of public dissemination analyses or other reports on work using or referencing NIH datasets prior to the embargo release date listed for the dataset (or dataset version) on dbGaP; 6. Investigator(s) acknowledge the Intellectual Property Policies as specified in the Data Use Certification; and, 7. Investigator(s) will report any inadvertent data release in accordance with the terms in the Data Use Certification, breach of data security, or other data management incidents contrary to the terms of data access.
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<p>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 to what data they relate and which restrictions will be asserted.</p>	<p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, please explain: For the Compass public data, the intellectual property is specified in a Data Use Certification Agreement (DUCA): The NIH considers these data as pre-competitive and urges Approved Users to avoid making IP claims derived directly from the genomic dataset(s). It is expected that these NIH-provided data, and conclusions derived therefrom, will remain freely available, without requirement for licensing. However, the NIH also recognizes the importance of the subsequent development of IP on downstream discoveries, especially in therapeutics, which will be necessary to support full investment in products to benefit the public. </p>
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3. 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).

[RDM guidance on documentation and metadata.](#)

Laboratory procedures will be written down in hard copy notebooks and digital documents and documented and referenced during experiments. Deviations will be motivated in the experimental logbook.

Data will be annotated referencing the experimental protocols; they will be identified using the headings and titles. Where necessary, an explanatory sheet will be added as a tab. For large datafiles, an explanatory file (e.g. README.txt) will be added to the folder.

Will a metadata standard be used to make it easier to **find and reuse the data**?

If so, please specify which metadata standard will be used. If not, please specify which metadata will be created to make the data easier to find and reuse.

REPOSITORIES COULD ASK TO DELIVER METADATA IN A CERTAIN FORMAT, WITH SPECIFIED ONTOLOGIES AND VOCABULARIES, I.E. STANDARD LISTS WITH UNIQUE IDENTIFIERS.

☐ Yes

☒ No

If yes, please specify (where appropriate per dataset or data type) which metadata standard will be used:

If no, please specify (where appropriate per dataset or data type) which metadata will be created:
No metadata standard will be used. Data will be annotated according to the researchers' standards. However, published data and data that is made available will be annotated according to the standards of public databases (GEO, EGA etc.) in order to allow easy and findable data reuse.

4. Data Storage & Back-up during the Research Project

<p>Where will the data be stored?</p> <p><i>Consult the interactive KU Leuven storage guide to find the most suitable storage solution for your data.</i></p>	<p><input checked="" type="checkbox"/> Shared network drive (J-drive)</p> <p><input type="checkbox"/> Personal network drive (I-drive)</p> <p><input checked="" type="checkbox"/> OneDrive (KU Leuven)</p> <p><input type="checkbox"/> Sharepoint online</p> <p><input type="checkbox"/> Sharepoint on-premis</p> <p><input checked="" type="checkbox"/> Large Volume Storage</p> <p><input type="checkbox"/> Digital Vault</p> <p><input checked="" type="checkbox"/> Other: <i>for the biological samples:</i></p> <ul style="list-style-type: none"> - <i>Departmentally owned Liquid nitrogen storage</i> - <i>Research group owned -80°C and -20°C freezers</i>
<p>How will the data be backed up?</p> <p><i>WHAT STORAGE AND BACKUP PROCEDURES WILL BE IN PLACE TO PREVENT DATA LOSS?</i></p>	<p><input checked="" type="checkbox"/> Standard back-up provided by KU Leuven ICTS for my storage solution</p> <p><input type="checkbox"/> Personal back-ups I make (specify)</p> <p><input type="checkbox"/> Other (specify)</p> <p><i>The KU Leuven J-drive is automatically backed up several times a day by the KU Leuven ICTS service.</i></p> <p><i>The KU Leuven L-drive is automatically backed up once a day by the KU Leuven ICTS service.</i></p> <p><i>The KU Leuven OneDrive account is continuously backed up on saving the files.</i></p> <p><i>Within the freezers, duplicates are stored of every sample as a backup.</i></p>
<p>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.</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>If no, please specify:</p>

<p>How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?</p> <p><i>CLEARLY DESCRIBE THE MEASURES (IN TERMS OF PHYSICAL SECURITY, NETWORK SECURITY, AND SECURITY OF COMPUTER SYSTEMS AND FILES) THAT WILL BE TAKEN TO ENSURE THAT STORED AND TRANSFERRED DATA ARE SAFE.</i></p> <p><u>Guidance on security for research data</u></p>	<p><i>The KU Leuven J-drive is automatically backed up several times a day by the KU Leuven ICTS service and is protected against any potential hazard by storage in the ICTS secure data centre. Access to the J-drive is limited by ICTS to members of the lab. The KU Leuven OneDrive account is password encrypted and restricted to a personal account.</i></p> <p><i>KU Leuven storage drives are secured and can only be accessed by authorized personnel with a valid account and password, including two-step identity verification.</i></p> <p><i>The -80°C and liquid nitrogen storage are equipped with an alarm warning technical services and the lab manager if anything goes wrong with sample storage. Access to the rooms is limited to personnel members of the KU Leuven with access to ON4 and is limited by badge on weekends and after hours. Locations of the samples in the freezing facility is stored on the lab-specific J-drive.</i></p>
<p>What are the expected costs for data storage and backup during the research project? How will these costs be covered?</p>	<p><i>- KU Leuven OneDrive account is free for personnel. Storage on the KU Leuven J-drive costs €45,08 / 100GB / year. Storage on the KU Leuven L-drive costs €95.14 / 1TB / year.</i></p> <p><i>- Liquid nitrogen storage capacity costs €50 / year for one entire sample column (13 boxes of 81 samples). We expect to need half a column for sample storage related to this project. We do not expect any costs related to -20°C and -80°C storage given the investments that our lab made in the past 5 years. We expect to spend less than €1500 on data storage and backup. This will be paid for by the project financing and research group credit.</i></p>

5. 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...).

[Guidance on data preservation](#)

- ☒ Following data will be preserved for 10 years according to KU Leuven RDM policy
 - *Cell line experimental data incl. blot images*
 - *Cell line and co-culture flow cytometry data*
 - *Proteomics data*
 - *Modulated cell lines (biological samples and informative data)*
 - *Immunodeficient mice (informative data)*
 - *'Blood' study participant bone biopsy (biological sample)*
 - *'Bone' study participant blood sample (biological sample)*
- ☒ Following data will be preserved for 25 years according to CTC recommendations for clinical trials with medicinal products for human use and for clinical experiments on humans
 - *Co-culture participant data*
 - *Pseudonymized 'blood' study participant data*
 - *'Blood' study participant serology data (informative data)*
 - *'Blood' study participant cellular data (informative data)*
 - *'Bone' study participant bone biopsy imaging (informative data)*
- ☒ Following data cannot be kept for 10 years (explain)
 - *Generated cell lines as they are commercially available for repurchase if needed.*
 - *Available myeloma datasets (e.g. MRF COMMPASS) as they are publicly available*
 - *Immunodeficient (NSG) mice as they are not viable to remain in storage.*

<p>Where will these data be archived (stored and curated for the long-term)?</p> <p><i>Dedicated data repositories are often the best place to preserve your data. Data not suitable for preservation in a repository can be stored using a KU Leuven storage solution, consult the interactive KU Leuven storage guide.</i></p>	<p> <input type="checkbox"/> KU Leuven RDR <input checked="" type="checkbox"/> Large Volume Storage (longterm for large volumes) <input type="checkbox"/> Shared network drive (J-drive) <input type="checkbox"/> Other (specify): </p>
<p>What are the expected costs for data preservation during the expected retention period? How will these costs be covered?</p>	<p><i>We anticipate to need a budget of maximum €1500 for data storage and back-up during and after the project. All costs will be covered by the specific funding of this project and existing lab research credit.</i></p>

6. Data Sharing and Reuse

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

NOTE THAT 'AVAILABLE' DOES NOT NECESSARILY MEAN THAT THE DATA SET BECOMES OPENLY AVAILABLE, CONDITIONS FOR ACCESS AND USE MAY APPLY. AVAILABILITY IN THIS QUESTION THUS ENTAILS BOTH OPEN & RESTRICTED ACCESS. FOR MORE INFORMATION:

<https://wiki.surfnet.nl/display/STANDARDS/INFO-EU-REPO/#INFOEUREPO-ACCESSRIGHTS>

- ☐ Yes, as open data
☐ Yes, as embargoed data (temporary restriction)
☒ Yes, as restricted data (upon approval, or institutional access only)
☐ No (closed access)
☐ Other, please specify:

The following will be made available as part of open access publications and datasets will be available upon request through restricted access repositories:

- *Blot images*
- *Flow cytometry data*
- *Proteomics data*
- *PCR data*
- *Modulated cell lines (and informative data)*
- *Immunodeficient mice (informative data)*
- *Co-culture participant data*
- *Pseudonymized study participant data*
- *Study participant serology data (informative data)*
- *Study participant cellular data (informative data)*
- *Study participant bone biopsy imaging (informative data)*

Data pertaining to the study participants will never be disclosed in such a way that their identity would be compromised. Biological samples will only be shared in the context of a scientific collaboration and after specific ethical approval.

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

Data will be available upon request to the data owner.

<p>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 per dataset or data type where appropriate.</p>	<p> <input checked="" type="checkbox"/> Yes, privacy aspects <input type="checkbox"/> Yes, intellectual property rights <input checked="" type="checkbox"/> Yes, ethical aspects <input type="checkbox"/> Yes, aspects of dual use <input type="checkbox"/> Yes, other <input type="checkbox"/> No </p> <p>If yes, please specify: <i>Privacy aspects pertaining to the data derived from study participants preclude from sharing the biological samples and restrict access to sensitive data, that will be censored from the dataset. Ethical aspects limit sharing of the data for other use than the use intended by study participants in their consent.</i> </p>
<p>Where will the data be made available? If already known, please provide a repository per dataset or data type.</p>	<p> <input checked="" type="checkbox"/> KU Leuven RDR <input type="checkbox"/> Other data repository (specify) <input type="checkbox"/> Other (specify) </p>
<p>When will the data be made available?</p>	<p> <input checked="" type="checkbox"/> Upon publication of research results <input type="checkbox"/> Specific date (specify) <input type="checkbox"/> Other (specify) </p>

<p>Which data usage licenses are you going to provide? If none, please explain why.</p> <p><i>A DATA USAGE LICENSE INDICATES WHETHER THE DATA CAN BE REUSED OR NOT AND UNDER WHAT CONDITIONS. IF NO LICENCE IS GRANTED, THE DATA ARE IN A GREY ZONE AND CANNOT BE LEGALLY REUSED. DO NOTE THAT YOU MAY ONLY RELEASE DATA UNDER A LICENCE CHOSEN BY YOURSELF IF IT DOES NOT ALREADY FALL UNDER ANOTHER LICENCE THAT MIGHT PROHIBIT THAT.</i></p> <p>Check the RDR guidance on licences for data and software sources code or consult the License selector tool to help you choose.</p>	<p><input type="checkbox"/> CC-BY 4.0 (data)</p> <p><input checked="" type="checkbox"/> Data Transfer Agreement (restricted data)</p> <p><input type="checkbox"/> MIT licence (code)</p> <p><input type="checkbox"/> GNU GPL-3.0 (code)</p> <p><input type="checkbox"/> Other (specify)</p>
<p>Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, please provide it here.</p> <p><i>INDICATE WHETHER YOU INTEND TO ADD A PERSISTENT AND UNIQUE IDENTIFIER IN ORDER TO IDENTIFY AND RETRIEVE THE DATA.</i></p>	<p><input type="checkbox"/> Yes, a PID will be added upon deposit in a data repository</p> <p><input type="checkbox"/> My dataset already has a PID</p> <p><input checked="" type="checkbox"/> No</p>
<p>What are the expected costs for data sharing? How will these costs be covered?</p>	<p><i>No costs are expected. Shipping costs for biological samples will be charged to interested scientists</i></p>

7. Responsibilities	
Who will manage data documentation and metadata during the research project?	<i>PhD student, promotor and lab technicians</i>
Who will manage data storage and backup during the research project?	<i>PhD student, promotor and lab technicians</i>
Who will manage data preservation and sharing?	<i>Promotor</i>
Who will update and implement this DMP?	<i>PhD student under final responsibility of the promotor, who will continue this after graduation.</i>