DMP title

Project Name Ontwikkeling van FabV-remmers om geneesmiddelenresistentie bij pathogene Gramnegatieve bacteriÃ«n te overwinnen - DMP title

Project Identifier G053122N

Grant Title G053122N

Principal Investigator / Researcher Peter Verwilst

Description The bacterial type II fatty acid synthesis (FASII) pathway has been recognized as an interesting and relatively underexplored target for new antibacterials with a distinct mode of action. Among the enzymes comprising this pathway, FabI, an enoyl-acyl carrier protein reductase (ENR), was identified as the target of triclosan, one of the most common additives to consumer products. In recent years, FabI inhibitors with a better bio-availability and toxicity profile have been reported as a potential new class of antibiotics. Yet, several notorious and highly pathogenic bacteria, such P. aeruginosa, an opportunistic â€œsuperbugâ€ have been shown to be resistant to FabI inhibitors as they (co)express FabV, an ENR isoenzyme. In the current project, FabV inhibitors will be identified and optimized as a potential new class of antibiotics, acting through the re-sensitization to FabI inhibitors.

Institution KU Leuven

1. General Information

Name applicant

Peter Verwilst

FWO Project Number & Title

G053122N

Ontwikkeling van FabV-remmers om geneesmiddelenresistentie bij pathogene Gramnegatieve bacteriën te overwinnen

Affiliation

- KU Leuven

2. Data description

Will you generate/collect new data and/or make use of existing data?

- Generate new data

Describe in detail the origin, type and format of the data (per dataset) and its (estimated) volume. This may be easiest in a table (see example) or as a data flow and per WP or objective of the project. If you reuse existing data, specify the source of these data. Distinguish data types (the kind of content) from data formats (the technical format).

Type of data	Data type	Digital data processing	Digital Format	Estimated Volume
Synthesis protocol	notebook	/	/	/
Intermediates of chemical synthesis	material	/	/	/
Index of intermediates from chemical synthesis	digital	Data Warrior (open source software)	.dwar	10 MB
Flash Column profiles	digital	Buchi	.pdf	500 MB
Mass spectrometry data	digital + hard copy	Synapt G2 MassLynx	.pdf	30 MB
NMR Data	digital + hard copy	Topspin (Bruker)	.Fid + .pdf	5 GB
Assay protocols	notebook	/	/	/
In vitro activity (Raw Absorbance data (kinetic mode) + processed IC50)	digital	CLARIOstar	.xls + .docx (metafile)	2 GB
In vivo growth	digital	/	.xls + .docx (metafile)	5 GB
Toxicity studies (Raw Absorbance data + processed IC50)	digital	CLARIOstar	.xls + .docx (metafile)	1 GB
Monthly progress meetings	digital	/	.pptx	1GB

3. Legal and ethical issues

Will you use personal data? If so, shortly describe the kind of personal data you will use. Add the reference to your file in KU Leuven's Register of Data Processing for Research and Public Service Purposes (PRET application). Be aware that registering the fact that you process personal data is a legal obligation.

- No

Privacy Registry Reference:
Short description of the kind of personal data that will be used:

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, add the reference to the formal approval by the relevant ethical review committee(s)

- Yes

In the last year of the project toxicity studies on human cell lines will be performed. Ethical approval will be sought in due time prior to performing the experiments.

Does your work possibly result in research data with potential for tech transfer and valorisation? Will IP restrictions be claimed for the data you created? If so, for what data and which restrictions will be asserted?

- Yes

LRD will be invloved if tech transfer and/or valorisation will take place.

Do existing 3rd party agreements restrict dissemination or exploitation of the data you (re)use? If so, to what data do they relate and what restrictions are in place?

- No

4. Documentation and metadata

What documentation will be provided to enable reuse of the data collected/generated in this project?

Notebooks will contain information on research methods, protocols and experimental results (hard copy of images, HPLC profiles, Mass and NMR spectra including a reference code to trace back raw data in digital database).

Will a metadata standard be used? If so, describe in detail which standard will be used. If no, state in detail which metadata will be created to make the data easy/easier to find and reuse.

- No

NMR and Mass data are named accoriding to a traceable numbering system, clearly indicated in the lab notebooks.
All other data will be preserved similarly, where appropriate a short explanatory note will be introduced to describe the data in the corresponding folders.

5. Data storage and backup during the FWO project

Where will the data be stored?

The time-stamped master copy of the data will be kept on our research unit central storage facility. Copies can be made and kept on personal devices. Since we will collaborate with researchers from other research units and groups, we will use OneDrive for active use of the data during the project.

How is backup of the data provided?

The data will be stored on the university's central servers with automatic daily back-up procedures.

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

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

Covered by KULeuven

Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

The data will be stored at the university's secure environment, KULeuven required dual verification.

6. Data preservation after the FWO project

Which data will be retained for the expected 5 year period after the end of the project? In case only a selection of the data can/will be preserved, clearly state the reasons for this (legal or contractual restrictions, physical preservation issues, ...).

All data will be retained for the expected period of 5 years after the end of the project.

Where will the data be archived (= stored for the longer term)?

Data will be stored on KU Leuven servers, with mirrored storing to ensure data preservation.

What are the expected costs for data preservation during the retention period of 5 years? How will the costs be covered?

Costs will be 519/year/TB. Costs will be covered by the project's grant.

7. Data sharing and reuse

Are there any factors restricting or preventing the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

- No

Which data will be made available after the end of the project?

Data that are used for the publication of research results will be made available upon request of the editor. A detailed description of used protocols and will be disclosed in the supplementary data.

All publications will be deposited in public digital repositories (e.g. Lirias) upon publication to garantee compliance with open access.

Where/how will the data be made available for reuse?

- Upon request by mail

When will the data be made available?

- Upon publication of the research results

Who will be able to access the data and under what conditions?
Access will be granted upon written request.

What are the expected costs for data sharing? How will the costs be covered?
Costs already covered under the archiving costs

8. Responsibilities

Who will be responsible for data documentation & metadata?
Initially: the researchers performing the research. But compliance checking and the ultimate responsability lies with the project's promotor (Peter Verwilst)

Who will be responsible for data storage & back up during the project?
The project's promotor (Peter Verwilst)

Who will be responsible for ensuring data preservation and reuse ?
The project's promotor (Peter Verwilst)

Who bears the end responsibility for updating & implementing this DMP?
The PI bears the end responsibility of updating & implementing this DMP. (Peter Verwilst)