

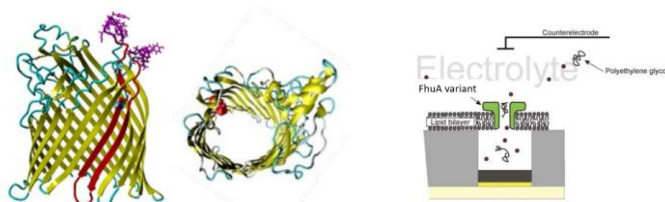
Internship/Master Thesis

Engineered FhuA for separation of cis- and trans-isomers.

Background

FhuA (ferric hydroxamate uptake protein component A) is an outer membrane protein (β -barrel) in *E. coli*. The natural function of FhuA is to secrete siderophores that bind iron molecules during iron deficiency. The siderophores are then taken up again by the FhuA protein, thus providing new iron molecules for *E. coli*.

In a BMBF-funded project of the initiative "Basistechnologien für die nächste Generation biotechnologischer Verfahren – Biotechnologie 2020+ 2020+", we have produced protein-polymer membranes with defined monodisperse pores. Here, the FhuA serves as a pore. These membranes enable new biotechnological processes in the field of downstream processing. The goal is the use of our membrane technology for the separation and processing of substances. In this project, the potential of FhuA for separation of *cis*- and *trans*-isomers will be explored. For this purpose, you will prepare Black lipid membranes with incorporated FhuA and study the permittivity of produced membranes for different isomers.



Qualifications

- Master/Internship student (f/m) in the field of biotechnology, biochemistry, chemistry or related
- Interest or former experience in protein expression and purification
- Interest or former experience in lipid membrane technology and electrophysiology
- Confident user of MS Office programs
- Good knowledge of English (spoken and written)
- Highly motivated and responsible person with the drive to learn and create

Methods

- Protein expression in microtiter plates & flasks
- Black lipid membranes preparation
- Electrophysiology measurements

For more details on this project please visit:

<https://www.biotech.rwth-aachen.de/cms/BIOTEC/Forschung/Projekte/~ggat/Chirale-Membranen-II/?lidx=1>

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