

## Synthetic archaeal proteoliposomes

<b>Project partners</b>
Universität Freiburg, Université de Strasbourg
<b>Project duration / Awarded funding</b>
01/02/2022 – 31/07/2024 / 27,000€
<b>Short description of the project</b>
Despite a 40-year tradition of molecular research in Eukarya, most of their cellular processes remain mysterious for science. This cross-border research project was based on the hypothesis that Eukarya emerged from within Archaea. The goal was to provide new explanations for vesicle generation from Archaea to Eukarya. To this end, expertise from molecular biology and biogeochemistry were combined.
<b>Concrete implementation of the project (What was the funding used for?)</b>
At the University of Freiburg, the money was invested for travel expenses of the PostDoc working on the project to travel to Strasbourg. Moreover, for consumables needed in the lab for the growth of 200 liter fermenters of different archaeal strains and for the lipid extraction from these cells. At the UdS, the money was used for consumables (solvents, stationary phases, HPLC and GC columns), for the salary of a master 2 student (6 months) and to attend a meeting (P. Adam, P. Schaeffer).
<b>Project result(s) and continuation of collaboration</b>
In Freiburg methods were established to extract and separate lipids from different archaeal species, which were then characterized in great detail in Strasbourg. Combining these methods, we could demonstrate that we can isolate fractions of lipids containing mainly tetraether lipids or specifically archaeal diether lipids (or individual lipids), which are currently used for further experiments. We are planning to write a number of articles on these results and continue the collaboration.
<b>Further information (links, articles, photos)</b>