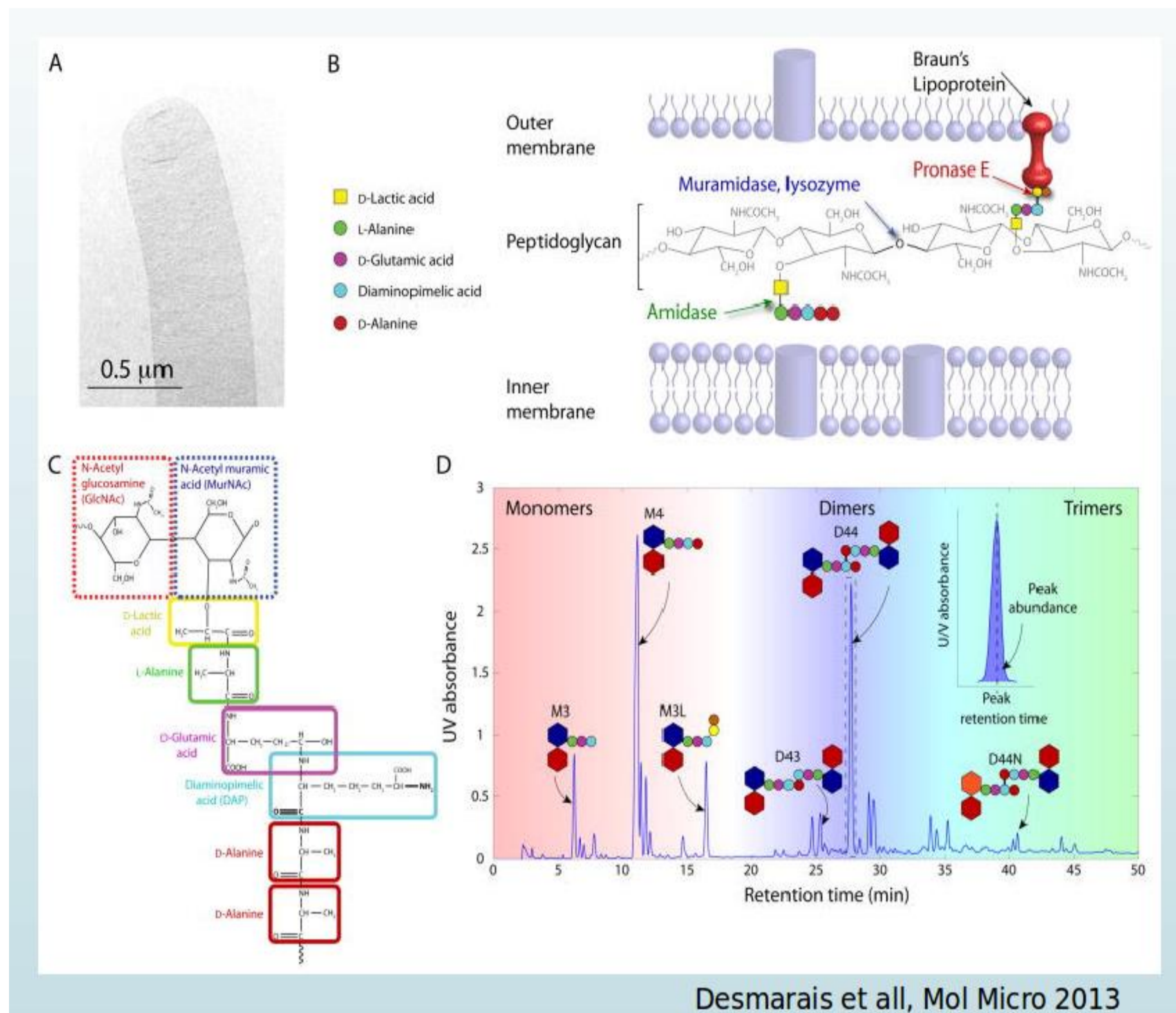




Cell Wall Extraction

Andreas Gunnarsson, Anton Langman, Astrid Råberg, Evgeniy Donev, Victoria Brandberg



Improve and Streamline the Analytical Workflow

Felipe Cava's lab main goal is gathering new knowledge to a library of bacteria's cell wall - both to provide answers to scientific fundamental questions and to aid researchers develop new antibiotics in the future.

Extracting cell wall samples effectively, opens a HTP screening bottleneck

Every Bacterial Strain is Unique. Its Cell Wall Chromatogram too.

High/Ultra Performance Liquid Chromatography (HPLC/UPLC) has played an important role in the understanding of the structural and chemical complexity of the cell wall by providing an analytical method to quantify differences in chemical composition.

Before analysis, a substance (SDS) has to be removed. This is today done with ultracentrifugation, which is time consuming.

Electrophoresis is a method used to separate DNA and RNA of different sizes through their negative charge. SDS which is also a negatively charged molecule can be separated from the cell wall by the same principle. However a prototype adapted to HTP had to be developed

Vacuum filtration can be used to wash out SDS from the samples. Disposable 96-well filterplates can be used to make this HTP.

The project group: Andreas Gunnarsson, Anton Langman, Evgeniy Donev, Astrid Råberg and Victoria Brandberg



Electrophoresis - The results imply that SDS can be removed from the cell wall in an efficient way by this method, but further development is required.

Filters - The results clearly points to that this method could replace the current one. Seen below is a chromatogram with a control and three samples that have the same peaks – showing that our method gives a same results, and its reproducible!

