

## **Development of Substrate derived Sortase A inhibitors to target bacterial virulence**

Master student project / internship

Within the framework of a MSc project or internship, we are seeking a motivated student to join our Antivirulence/ Antimicrobial resistance Team! You will have the unique opportunity to dive deeply into the medicinal chemistry workflow!

Recently, we developed a small set of rationally designed inhibitors to target sortase A from *S. aureus* (Abujubara and Hintzen et al., Chem. Sci., 2023, <https://doi.org/10.1039/D3SC01209C>). The transpeptidase Sortase A (SrtA) is a surface enzyme of gram-positive pathogenic bacteria. It has been shown to be an essential virulence factor for the establishment of various bacterial infections, including septic arthritis. However, the development of potent Sortase A inhibitors remains an unmet challenge.

Within this project, we want to further improve the bioactivity of our initial set of substrate derived compounds.

### **What you will do:**

The project will involve computer-based rational design of novel peptide-based inhibitors, followed by their synthesis (automated solid-phase peptide synthesis), purification and characterization (RP-HPLC, LC-MS, NMR). Furthermore, you will access the bioactivity of those compounds with various assays (FRET, biofilm formation).

If you are interested, contact

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