2-year Postdoc position available at Institut Pasteur Paris

Structural membrane dynamics and enzymatic activity of lipoprotein modification enzyme Lgt in the presence of peptide inhibitors

Antimicrobial resistance is a major threat to public health, welfare, and the economy. The recent WHO priority list of pathogens includes the so-called ESKAPE bacteria, the majority of which have cell envelopes composed of two membranes (diderm). Antibiotic treatment of these species is particularly difficult due to poor entry of molecules, efficient efflux of drugs and intrinsic resistance to antibiotics.
The main objective of the project is to target the lipoprotein modification pathway with peptidic antibacterial agents. It specifically targets the first enzyme of the pathway Lgt and addresses two questions: 1) what is the molecular mechanism of the Lgt reaction, and is this conserved among bacteria; 2) is it possible to inhibit Lgt activity through interaction with peptides? The answers will contribute to a fundamental understanding of the first and critical step of lipoprotein modification and will provide evidence that Lgt is an excellent target for the development of novel antibacterial agents.

Candidate profile:
We are looking for a motivated biochemist/biophysicist with expertise in functional analyses of membrane proteins. Knowledge on peptide synthesis and chemical modifications is a plus.

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