IMBB SEMINAR

ΙΝΣΤΙΤΟΥΤΟ ΜΟΡΙΑΚΗΣ ΒΙΟΛΟΓΙΑΣ ΚΑΙ ΒΙΟΤΕΧΝΟΛΟΓΙΑΣ INSTITUTE OF MOLECULAR BIOLOGY AND BIOTECHNOLOGY

Uropathogenic Escherichia coli employ a previously unrecognized detoxification system for protection from reactive chlorine species

Neutrophils eliminate invading pathogens through the production of reactive oxygen and chlorine species (ROS/RCS), with hypochlorous acid (HOCl) representing the most abundant and bactericidal oxidant produced during host defense and inflammation. Compared to bacterial defenses against ROS, which are better understood, little is known about how pathogens respond to and counter RCS, including HOCl. Here, we identify and mechanistically characterize RcrB, a protein of the uncharacterized DUF417 protein family, for which no role in oxidative stress defense has been described yet. We report a previously unrecognized role as an RCS detoxification system that confers high-level resistance to uropathogenic Escherichia coli (UPEC).

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THURSDAY 23/4/2026

13:00
Costas Fotakis room

My interest in microbial physiology was amplified during my graduate MS and PhD graduate training at Potsdam University (Germany) when I discovered two novel sulfur carrier proteins and characterized their role for molybdenum cofactor biosynthesis. While most of my work was biochemical in nature at the time, I realized the significance of validating results in an in vivo context and thus completed an internship at the CNRS Laboratoire de Chimie Bactérienne in Marseille (France), where I was trained in transcriptomics. During my postdoctoral training at the University of Michigan (US), I gained expertise in redox biology by using the genetic toolboxes available for E. coli and P. aeruginosa.

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