

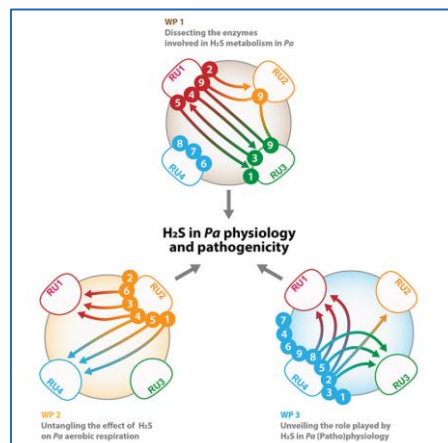
Project title: Hydrogen sulfide metabolism in *Pseudomonas aeruginosa* (patho)physiology

Acronym H2S-PaMP

Partners:

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Description:

Pseudomonas aeruginosa is a Gram-negative multidrug-resistant pathogen for which new therapeutic strategies are urgently needed. Exploring unconventional approaches may lead to the discovery of novel pharmacological solutions. In this context, H₂S, a key endogenous signaling molecule in mammals, has been poorly investigated in bacteria, where it was recently proposed to enhance antibiotics resistance. This project involves a multidisciplinary team with complementary expertise in biochemistry, structural biology and microbiology, to gain insight into the role of H₂S metabolism in *P. aeruginosa*.

Aims:

This project aims to elucidate the role of H₂S in the physiology and pathogenicity of *P. aeruginosa*, the molecular mechanisms underlying the homeostasis of this potentially toxic molecule and its impact on aerobic respiration.

Expected results:

We will unveil the structural and functional properties of the enzymes regulating H₂S levels in *P. aeruginosa* and protecting this pathogen from sulfide toxicity. Additionally, using engineered laboratory strains and infection models, our understanding of H₂S metabolism in the physiology and pathogenicity of *P. aeruginosa* will be deepened, hopefully paving the way to the development of innovative therapeutic strategies.

Funded by the European Union – Next Generation EU, M4C2 – CUP B53D23004000006