Vancomycin resistance regulation in the antibiotic-producers streptomycetes

PROJECT DETAILS

Funding Programme:
Horizon 2020
Sub-Programme:
Excellent Science
Funding Scheme:
Marie Sklodowska-Curie Individual Fellowships - Standard European Fellowships
Project Reference:
740080;
UE-18-VANRESTREP-740080
Project Duration:
24 months (from 2018-02-01 to 2020-01-31)
Total Project Value:
€ 158.121,60
EU Contribution:
€ 158.121,60
UniOvi Budget:
€ 158.121,60

CORDIS link:
https://cordis.europa.eu/project/rcn/208544_en.html

PROJECT DESCRIPTION

Antimicrobial resistance is a critical health issue today. Important pathogens have become resistant to many or all available antibiotics and limited new antibiotics are in the pipeline. Vancomycin is used as a 'last resort' antibiotic treatment for many bacterial infections, but worryingly vancomycin resistance (VR) has spread to major hospital-acquired pathogens such as Enterococcus faecium and Staphylococcus aureus. Most pathogen VR gene clusters likely came from actinomycetes, the natural producers of glycopeptides and most other antibiotics of natural origin. Induction of VR in the model actinomycete Streptomyces coelicolor is highly influenced by nutritional conditions, in particular by the phosphate (Pi) concentration in the medium. This project aims to understand the mechanisms of Pi regulation of the S. coelicolor van cluster, and to expand this study to other nutrients that may also control VR. A main focus is on the role of sRNAs in the regulation, as they offer potential novel targets for future clinical exploitation such as "antisense RNA therapy".

PROJECT PARTNERS

Project Coordinator
Universidad de Oviedo, Spain

UNIOVI TEAM

Fernando Santos Beneit [1]
santosfernando@uniovi.es
José Antonio Salas Fernández [1]
jasalas@uniovi.es

[1] Department of Functional Biology

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 740080