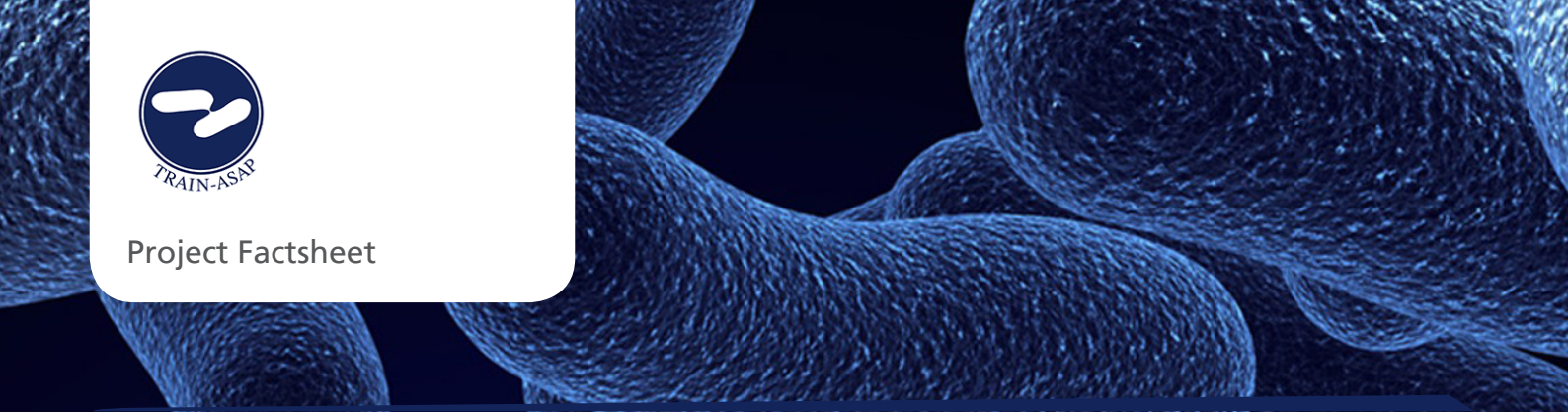


Project Factsheet

TRAIN ASAP

Training and Research Almed and Novel Antibacterial Solutions in Anmials and People

Background

The health and economical burden of antibiotic resistance is increasing dramatically as evidenced by the worldwide emergence of multidrug-resistant (MDR) strains of Escherichia coli producing extended-spectrum ß-lactamase (ESBL) and methicillin-resistant Staphylococcus aureus (MRSA). Such MDR bacteria were initially confined to hospital settings but are now being reported with increased frequency in the community and in animals. While the antibiotic resistance problem is increasing with dramatic speed worldwide, the rate of discovery of new antibacterial drugs has been markedly reduced during the last decades.

EU and national governments are actively working on policies and incentives for promoting innovation in antibiotic research. Many small to medium-sized pharmaceutical/discovery companies were the first to take up this challenge and now some of the larger pharmaceutical companies are re-investing in antimicrobial discovery programmes.
The need for highly qualified personnel is particularly urgent in the animal health sector. The re-entry of animal health companies into the antibacterial discovery area now requires the availability of scientists specifically trained in developing new veterinary products with low impact on the development of resistance.

Objectives

The goal of TRAIN-ASAP is to meet the demand for a new generation of antibacterial drug discovery scientists through a unique training experience combining both academic and industrial work experience. The focus of the training programme is not limited to the discovery of new antibacterial drugs but is extended to the:

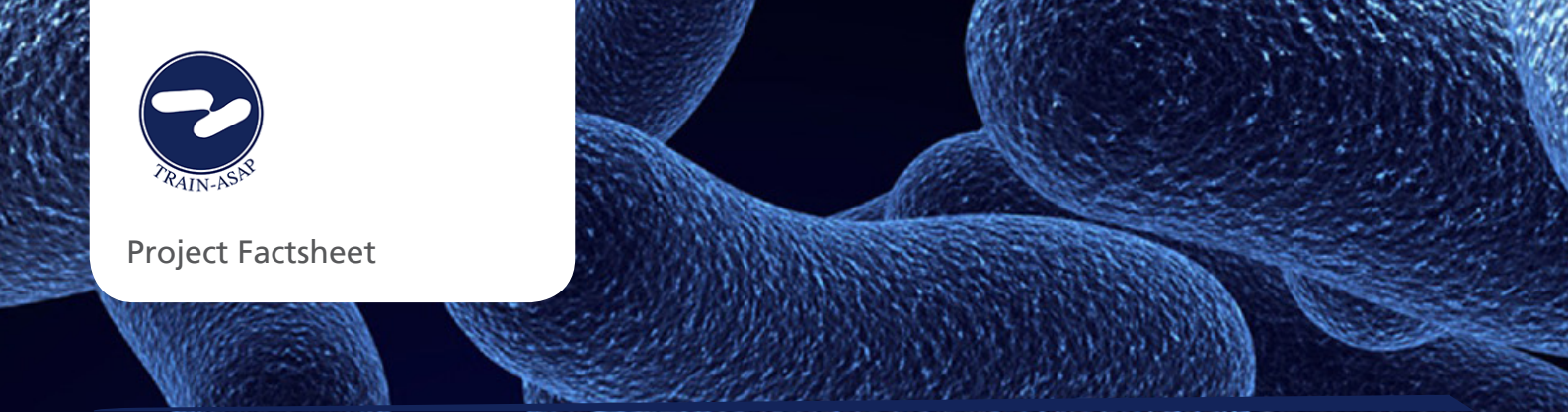
- Discovery of "non-antibiotic helper drugs" able to enhance the antimicrobial activity of existing drugs or to reduce their negative effects on the commensal flora.
- Definition of "rational treatment regimens" aimed to improve the pharmacological performance and the clinical efficacy of existing drugs while mini-mizing the development of resistance in the gut microflora.
- Development of "veterinary antibacterial solutions" characterized by targeted spectrum and minimal cross-resistance to important human antibacterial drugs.

Funding Programme:
This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement N°289285.

Project Duration:
01/01/2012 – 31/12/2015

Project Budget:
3.5 million euro

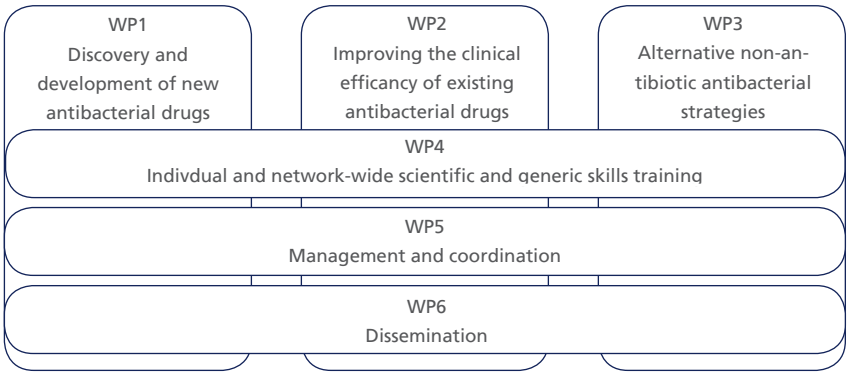
Project Website:
www.train-asap.eu



Project Factsheet

Activities

A total of 14 individual research projects are organized into three scientific work packages (WPs) and one training WP. These will be complemented by two WPs for the project management and dissemination.



The research programme ranges from chemical engineering of synthetic antimicrobial peptides with improved PK/PD properties to the use of bacteriocins and bacteriophages as alternative methods for control of bacterial infections in animals. The ITN is largely based on the "One health" concept because there is growing evidence indicating that antimicrobial resistance can be successfully combated only through interdisciplinary efforts between the human and the veterinary sectors.

Impact

Antibiotic resistance represents a major economical burden to the society due to prolonged antimicrobial therapy and hospitalization, increased recourse to medical visits and diagnostic examinations, and absence from work. According to the joint report by ECDC and EMA, the costs associated with infections caused by multidrug-resistant MDR bacteria result in extra healthcare costs and productivity losses of approximately EUR 1.5 billion each year. Therefore, TRAIN-ASAP`s progress in the area of antibacterial drug discovery will indirectly contribute to reduce the costs for the society, in particular for the national healthcare systems. Additionally, the new discoveries achieved through our research programme will lead to spin-offs of great benefit to private companies in the pharmaceutical sector.

The lack of effective antimicrobials for combating MDR bacteria poses a serious public health and economical problem by rising human mortality associated with treatment failure. TRAIN-ASAP will positively impact the health of critically ill patients through development of novel antibacterial products, dosage regimens, drug targets and mechanisms of action against MDR bacteria. The ITN will also have indirect positive consequences on human health by preserving the efficacy of older antibiotics and by preventing zoonotic transmission of MDR bacteria from animals.

Project coordinator:

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