# Technology Offer

New Class of inhibitors with activity against Gram-positive and Gram-negative bacteria

Field of use Healthcare-Medical Science; antibacterial drug discovery

**Current state** of technology Laboratory tested; preclinical

Intellectual property Patent application: LU100918

#### Developed by

University of Ljubljana, Faculty of Pharmacy, University of Helsinki (UH) and Biological Research Center of the Hungarian Academy of Sciences, Szeged

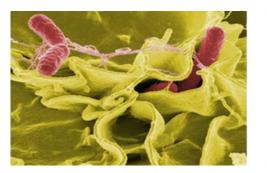
# Reference

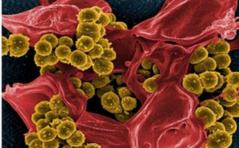
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# Background

The increasing number of life-threatening infections due to resistant Gram-positive and Gram-negative pathogens is alarming. In the last 50 years, the number of multi-drug resistant (MDR) bacteria is rising and the number of drugs crossing the first testing phases is very limited.

### Description of the Invention

We have discovered a new class of inhibitors of the ATPase domains of DNA gyrase and/or topoisomerase IV. The benzothiazole scaffold-based compounds, that can be used in the manufacture of drugs, are effective against both Gram-positive and Gram-negative pathogens in humans. Examples include pathogens of the "ESKAPE" group (Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa, and Enterobacter species).

# Main Advantages

Most inhibitors previously described showed activity only against Gram-positive strains and were not successful in clinical trials due to their high toxicity profile. Our compounds show promising possibilities for derivatization and are active against both Grampositive and Gram-negative bacteria.

