

Project no.: NOR/POLNOR/PrevEco/0021/2019, supported by Norway grants in POLNOR2019 “Applied Research” programme.

Project Title: “OneHealth approach to sustainable prevention and treatment of infectious diseases” (PrevEco)

The project consortium:



MMRC, Mossakowski Medical Research Centre, PAS (Poland)



NMBU, Norwegian University of Life Science (Norway)



TINE (Norway)

Total cost of the project: 6 694 600 PLN (4 166 600 PLN for MMRC)

Project duration: 01.01.2021 – 01.01.2024

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Antimicrobial resistance is one of the major medical problems that needs urgent actions. The importance of this problem is reflected in the global initiative One Health launched by WHO. OneHealth initiative is based on the idea that the problem of spreading antimicrobial resistance can be solved only by global simultaneous actions towards “healthy people, healthy environments and healthy animals”. Only such orchestrated and multidirectional actions might save us from going back to time before penicillin was discovered. The aim of this project is to develop a new strategy to prevent and treat bacterial infections with natural, safe and efficient antimicrobials. This innovative strategy will be based on bacteriolytic enzymes and bacteriocins - biodegradable compounds of defined specificity and high efficiency.

We have chosen mastitis as the first disease to demonstrate the efficacy of the proposed approach which, if proved effective, can be implemented in prevention and treatment of other bacterial diseases in animals, but also in humans. The proposed non-antibiotic protection of livestock from bacterial infections will not only improve welfare of animals and minimize losses in production, but at the same time will lead to reduction of antibiotic usage and by that development of resistance among pathogenic bacteria.

We want to reach our goals by isolating and characterizing new bacteriocins and bacteriolytic enzymes against the most common mastitis bacteria. Formulations based on the new antimicrobials will be tested first in vitro and then in animal models and field trials. In the end of the project we will scale up the production of the compounds and prepared commercialization strategy.