

## **NOMADS UAB, Lithuania Published Milestone Research Paper Describing its Novel Klebicin Product Candidates for Control of Pathogenic *Klebsiella***

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NOMADS UAB, Lithuania, NOMAD Bioscience's wholly owned subsidiary, announces the publication in the Scientific Reports journal (Denkovskienė E, Paškevičius Š, Misiūnas A, Stočkūnaitė B, Starkevič U, Vitkauskienė A, Hahn-Löbmann S, Schulz S, Giritch A, Gleba Y, Ražanskienė A. Broad and efficient control of *Klebsiella* pathogens by peptidoglycan-degrading and pore-forming bacteriocins Klebicins. Scientific Reports (2019) 9: 15422; <https://www.nature.com/articles/s41598-019-51969-1>) a research paper describing novel antibacterial proteins Klebicins that provide broad and efficient control of major pathogenic strains of *Klebsiella*.

Gram-negative bacteria belonging to the genus *Klebsiella* are important nosocomial pathogens, readily acquiring resistance to all known antibiotics. Bacteriocins, non-antibiotic antibacterial proteins, have been earlier proposed as potential therapeutic agents for control of other Gram-negative species such as *Escherichia*, *Pseudomonas* and *Salmonella*.

NOMADS scientists discovered, cloned, expressed in plants and characterized nine pore-forming and peptidoglycan-degrading bacteriocins from different *Klebsiella* species which they termed Klebicins. The results published in Nature Scientific Reports journal demonstrate that Klebicins are expressed at very high yields in green plants and exhibit high genus-specific antimicrobial activity on both planktonic and biofilm-embedded cells. The panel of six highly efficient plant-expressed Klebicins control 94% of over 100 clinical isolates evaluated. Most importantly, Klebicins are active against most of the tested multidrug-resistant (MDR) bacterial pathogens including those insensitive to the last generation antibiotics carbapenems and cephalosporins. Klebicins are thus promising non-antibiotic antibacterial agents and could be the basis of novel therapies for control of MDR *Klebsiella*.

**About NOMADS UAB.** Nomads UAB is a biotechnology company developing new non-antibiotic antibacterials, including bacteriocins and endolysins, to be used as pharmaceuticals, food additives and medical devices.

**About NOMAD Bioscience GmbH.** Nomad Bioscience GmbH, parent company of NOMADS, is a plant biotechnology company developing a broad range of biotechnology products manufactured in plants. Corporate offices are headquartered in Munich, Germany and the Company's Research Division is located in Halle, Germany.