

NOMAD Bioscience Published Milestone Research Paper Describing its Colicin Product Candidates

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NOMAD Bioscience announces the publication in the Proceedings of the National Academy of Sciences of USA (S. Schulz et al., PNAS DOI:10.1073/pnas.1513311112) a research paper describing broad and efficient control of major foodborne pathogenic strains of *Escherichia coli* by mixtures of plant-produced colicins.

Enterohemorrhagic or Shiga toxin-producing *Escherichia coli* contaminating food products are a leading cause of bacterial enteric infections in USA and worldwide. Currently, other than thermal inactivation, there are no effective methods to control pathogenic bacteria in food chain. NOMAD scientists investigated colicins, non-antibiotic antimicrobial proteins produced by certain *E. coli* strains and narrowly active against some other strains of the species, as potential pathogen control agents. The results published in PNAS demonstrate that most colicins are expressed at very high yields in plants, are fully functional and identical to bacterially produced molecules. It is shown that simple mixtures of two or more colicins applied at low concentrations are highly and broadly active against all major pathogenic *E. coli* strains causing outbreaks („Big Seven“). Plant-produced colicins are being proposed as inexpensive food additives for a broad control of pathogenic *E. coli* bacteria in food products that can be promptly approved in USA under existing regulatory approval process.

About NOMAD Bioscience GmbH. Nomad Bioscience GmbH is a plant biotechnology company developing transient expression systems with application to a broad range of agricultural and pharmaceutical biotechnology products. Corporate offices are headquartered in Munich, Germany and the Company's Research division is located in Halle, Germany. NOMAD Bioscience GmbH has two subsidiary companies: Nambawan Biotech GmbH (Halle, Germany) and UAB Nomads (Vilnius, Lithuania).