

NEW LINEAR AZOL(IN)E CONTAINING ANTIMICROBIAL PEPTIDE IDENTIFICATION IN THERMOPHILIC BACTERIUM

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Bacteriocins are ribosomally synthesized antimicrobial peptides produced by various bacteria. These antimicrobial peptides are usually stable at high temperatures and over a wide pH range [1]. Bacteriocins have huge potential as both food preservatives, and as next-generation antibiotics targeting the multiple-drug resistant pathogens. It has been suggested that the majority of bacterial species synthesize bacteriocins. The increasing number of reports of new bacteriocins with unique properties indicates that there is still a lot of to learn about this family of peptide antibiotics. Our goal is identification and characterization of novel bacteriocins encoded in thermophilic bacteria. In this study we have identified novel post-translationally modified bacteriocin, belonging to the subclass of linear azol(in)e containing peptides (LAPs), which was encoded in *Parageobacillus toebi* bacterium. Here we present cloning and expression of this bacteriocin in *Escherichia coli*. Following the expression, we will purify and characterize its antibacterial effect on various *(Para)Geobacillus* spp. and other bacteria. Moreover, we will investigate its stability in various temperatures and pH values.

[1] R.H. Perez, T. Zendo, K. Sonomoto, Novel bacteriocins from lactic acid bacteria (LAB): various structures and applications, *Microb. Cell Fact.* 13 (2014) S3.