

MOLECULAR MASS DETERMINATION OF BACTERIOCIN FROM *ENTEROCOCCUS ITALICUS* ONU547 BY TRICINE-SDS-PAGE

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Bacteriocins are cationic proteins or peptides that synthesized on ribosomes and have antagonistic activity against a number of gram-positive bacteria (H-Kittikun et al., 2015). The aim of this work was determination of molecular mass of bacteriocin, produced by *E. italicus* ONU547. Tricine-sodium dodecyl sulphate-polyacrylamide gel electrophoresis (Tricine-SDS-PAGE) was used for experiment. 20 µl of mixture of bacteriocin samples with buffer were charged in the wells and electrophoresis was performed at 40 mA, 10°C. After, the gel was fixed, stained and assayed for molecular mass and antagonistic activity against indicator *Lactobacillus sakei* INRA (H-Kittikun et al., 2015). As a result, the bands of partially purified bacteriocin (PPB), as well as of bacteriocin from cell-free supernatant (CFS), exhibited inhibitory activity against used indicator and in the case of CFS the molecular mass of the band was approximately 3 kDa. When PPB was analyzed, two bands with inhibitory activity were observed with molecular mass approximately 2 and 3 kDa. It could indicate the two-component nature of studied bacteriocin. It is known from literature data that *E. italicus* produced two types of bacteriocin – enterocin A and enterocin B, which are with molecular mass of 4.828 and 5.479 Da, respectively (Gaaloul et al., 2014). But in our study, the molecular mass of bacteriocin of *E. italicus* ONU547 was approximately 2-3 kDa. These results could indicate the possibility of production of a bacteriocin, other than enterocin A and B by this species of enterococci. It can be explained by transfer of genes that are responsible for bacteriocin production from others species of enterococci to *E. italicus* ONU547. The further study to prove these hypotheses will be performed.

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