ABSTRACT

ANTIBACTERIAL ACTIVITY OF MICROSPHERE NISIN USING ALGINATE-GELATIN (2,5 : 0,5)% AS MATRIX IN CITRIC BUFFER pH 4,5
(Using Bacteria Test Staphylococcus aureus ATCC 6538)

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The study was to investigate antibacterial activity profile of microsphere nisin using alginate-gelatin (2,5 : 0,5)% as matrix. The antibacterial activity test was performed by diffusion method using bacteria Staphylococcus aureus ATCC 6538. Antibacterial activity of microsphere nisin in citric buffer pH 4,5 ± 0,05 as medium shown by inhibitory zone. By these results, we had antibacterial activity profile of nisin in microsphere. Profile antibacterial activity of the nisin microsphere obtained almost constant until sixth hour. The linear regression equation obtained from antibacterial activity of gentamicin sulfate is \( y = 5,7859x + 8,5203 \) with linear coefficient 0,9781. Inhibitory zone by microsphere nisin is extrapolation to linear regression. The results had an antibacterial activity equivalence of nisin in microsphere to gentamicin sulfate against Staphylococcus aureus ATCC 6538. They were 24,79 ppm (first hour), 4,68 ppm (second hour), 6,76 ppm (third hour), 6,92 ppm (fourth hour), 8,51 ppm (fifth hour) and 9,33 ppm (sixth hour).

Keywords: Nisin, Microsphere, Antibacterial Activity.