

Aktivitas Antibakteri Sel Amobil Streptomyces Sp-1 dalam Matrik Ca-alginat dan Ba-alginat terhadap Staphylococcus aureus

Abstrak :

Immobilization of Streptomyces sp-1 cells has been performed by using Ca-alginate and Ba-alginate as matrix, that was prepared by mixing 20 mL of sodium alginate solution 2% (w/v) added by cells of Streptomyces sp-1 with 50 mL of CaCl₂ 0.25 M and 50 mL of BaCl₂ 0.25 M respectively.

The immobilization produces cell beads and their activities against Staphylococcus aureus investigated and compared for observing capacity of Ca-alginate and Ba-alginate matrix to entrap the cells. Fermentation processes for producing anti bacterial substances from the cell beads carried out in ISP-4 liquid medium at 30oC and 100 rpm. Activity of the antibiotics produced in the fermentation broth measured by agar diffusion method, that presents their potency to inhibit the Staphylococcus aureus growth and expressed as diameter of inhibition zone (mm). The result shows that the activity of Streptomyces sp-1 cell beads of Ca-alginate is 1.08 folds compare with cell beads of Ba-alginate.

Keyword :

Anti bacterial activity, Streptomyces sp-1, immobilized cells, Ca- alginate, Ba alginate, Staphylococcus aureus