

THE DETECTION OF EXOGLUCANASE ACTIVITY IN CELLULOLITIC BACTERIA IN HYDROLYZING CELLULOSE INVITROLY

PRASIDI ANUGRAHA

ABSTRACT

The aim of this study was to detect exoglucanase enzyme activity that yielding by cellulolitic bacteria in hydrolysis cellulose invitroly. Deliberate NaNO_3 2,0 g, MgSO_4 1,0 g, K_2HPO_4 1,0 g, FeSO_4 0,1 g, NaCl 0,8 g, then was added Carboxyl methyl cellulose (CMC) 10 g and gel base 15 g. Put all materials in erlenmayer tube which have been sterilized before. Add aquadest 1000 ml then swirl in boiling water. Next step the temperature was degraded to 65°C then pour into petri dish. The Cellulolitic bacteria isolate were planted in CMC gel with aseptic way, then incubated it during 72-96 hour at 37°C temperature. To see the shining zone, do the congo red coloration, shaker and clean it with NaCl 0,5 M. The result of research indicated that the activity exoglucanase enzyme of cellulolitic bacteria in hydrolyzing cellulose invitroly could be done in using CMC gel. The activity of exoglucanase enzyme detection could be seen at shining zone formed in CMC gel media. The shining zone was performed because of cellulase hydrolysed cellulose in CMC gel media. CMC gel which hydrolysed by cellulase will not coloured with congo red and was identified as shining zone.

Key words : Exoglucanase, Cellulolitic bacteria, Shining zone