

ABSTRACT

THE TOXICITY OF GLUTARALDEHID AS A CROSS-LINK AGENT IN BHA-GELATIN-GENTAMICIN PELLET ON CELL GROWTH (MTT TEST)

Fitroh Mubarokah

Glutaraldehyde is one of the effective and safe crosslink agents compared to other aldehydes groups, and also it produces polymers to be more rigid at lower concentrations compared to genipin or others. Regardless of the safety of GTA as a crosslinking agent, it is important to know that the addition of GTA greatly influences cell growth. In several studies, GTA toxic at different concentration in different biomaterials. Therefore GTA in BHA-GEL-GEN biomaterials will also affect cell growth. The purpose of this study is to prove the safety of GTA as a cross-linking agent in BHA-GEL-GEN pellets. The study carried out was a laboratory experimental with Post Test Only Control Group Design, using MTT test with baby hamster kidney fibroblasts cells and using GTA concentration of 0%; 0.5%; 1% and 2%. The percentage of cell growth obtained results $\geq 60\%$ of living cells. The results at a concentration of 0%; 0.5%; 1% and 2% GTA are 138,307%; 121.204%; 87,347%; and 95.201%, so, it can be concluded that the addition of glutaraldehyde with a concentration of 0%; 0.5%; 1% and 2% do not have a toxic effect on cell growth in BHA-GEL-GEN biomaterials.

Keywords: Glutaraldehyde, Crosslink agent, Pellets, MTT