

**ABSTRACT**

***EFFECT OF CaCl<sub>2</sub> CROSSLINKER CONCENTRATION ON  
RELEASE OF CIPROFLOXACIN HCL FORM ALGINATE  
MICROSPHERES***

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*Cystic fibrosis is one of the most common life-shortening inherited diseases. Many researchers develop a targeted drug therapy years ago, but the efforts still continue to find the most effective and efficient drug delivery system to enhance the patient quality of life. Ciprofloxacin-alginate microspheres is a delivery system that capable to protect the ciprofloxacin HCl active drug to the environment exposure and control the release. The objective of this study was to investigate effect of CaCl<sub>2</sub> crosslinker concentration on the release of ciprofloxacin HCl from alginate microspheres. The result showed that ciprofloxacin-alginate microspheres had sustained release and completed in 24 hours and the release was following zero order kinetic. CaCl<sub>2</sub> Crosslinker concentration ( 2%, 3%, 4%) did not have significant differences on the cumulative release percentage and release rate.*

**Keywords** : *microspheres, alginate, CaCl<sub>2</sub>, ciprofloxacin HCl, Cystic fibrosis, release study*