

## عنوان مقاله:

Encapsulation of propranolol Hydrochloride by calcium-alginate hydrogel beads

محل انتشار:

همایش بین المللی پژوهش های مهندسی شیمی و مواد (سال: 1395)

تعداد صفحات اصل مقاله: 7

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## خلاصه مقاله:

Hydrogels are high-water content materials prepared from cross-linked polymers that are able to provide sustained, local delivery of a variety of therapeutic agents. Use of the natural polymer, sodium alginate, as the scaffold material in hydrogels has been highly pursued thanks to the polymer's biocompatibility, Sodium alginate (SA), which is a naturally occurring non-toxic polysaccharide found in marine brown algae, is one of the polysaccharides employed to fabricat small hydrogel beads, These beads can be prepared using an ionotropic gelation method. In this research Propranolol hydrochloride was used as model drug for loading in calcium alginate beads. Drug encapsulation efficiency (EE) was determined. The swelling ability of propranolol in solutions of different pH value were investigated. They exhibited significant swelling rates when exposed to the slightly alkaline environment. Furthermore in vitro release of propranolol was investigated. The results suggest that the system has potential to be used as a delivery .system for propranolol hydrochloride

**کلمات کلیدی:** Hydrogel, sodium alginate, propranolol- hydrochloride, Encapsulation, Swelling, Drug release

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