

Accepted Manuscript

Title: Supramolecular Hydrogels as Drug Delivery Systems

Author: Mohammad reza Saboktakin Roya Mahdavi
Tabatabaei



PII: S0141-8130(15)00075-6
DOI: <http://dx.doi.org/doi:10.1016/j.ijbiomac.2015.02.006>
Reference: BIOMAC 4879

To appear in: *International Journal of Biological Macromolecules*

Received date: 16-1-2015
Revised date: 27-1-2015
Accepted date: 7-2-2015

Please cite this article as: M. Saboktakin, R.M. Tabatabaei, Supramolecular Hydrogels as Drug Delivery Systems, *International Journal of Biological Macromolecules* (2015), <http://dx.doi.org/10.1016/j.ijbiomac.2015.02.006>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Supramolecular Hydrogels as Drug Delivery Systems

Mohammad reza Saboktakin*, Roya Mahdavi Tabatabaei

Nanostructured Materials Synthesis Lab., NanoBMat Company, GmbH, Hamburg, Germany

Abstract

Drug delivery from a hydrogel carrier implanted under the kidney capsule is an innovative way to induce kidney tissue regeneration and/or prevent kidney inflammation or fibrosis. We report here on the development of supramolecular hydrogels for this application. Chain-extended hydrogelators containing hydrogen bonding units in the main chain, and bifunctional hydrogelators end-functionalized with hydrogen bonding moieties, were made. The influence of these hydrogels on the renal cortex when implanted under the kidney capsule was studied. The overall tissue response to these hydrogels was found to be mild, and minimal damage to the cortex was observed, using the infiltration of macrophages, formation of myofibroblasts, and the deposition of collagen III as relevant read-out parameters. Differences in tissue response to these hydrogels could be related to the different physico-chemical properties of the three hydrogels.

Keywords : Drug delivery, Supramolecular hydrogels, physical properties.

* Corresponding author : Mohammad Reza Saboktakin, Nanostructured Materials Synthesis Lab., NanoBMat Company, GmbH, Hamburg, Germany

Tel/Fax: +040-2263470 E-mail : Saboktakin123@gmail.com*

Download English Version:

<https://daneshyari.com/en/article/8331805>

Download Persian Version:

<https://daneshyari.com/article/8331805>

[Daneshyari.com](https://daneshyari.com)