

Accepted Manuscript

Title: Chitosan as biomaterial in drug delivery and tissue engineering

Authors: Saad M. Ahsan, Mathai Thomas, Kranthi K. Reddy, Sujata Gopal Sooraparaju, Amit Asthana, Ira Bhatnagar



PII: S0141-8130(17)31884-6
DOI: <http://dx.doi.org/10.1016/j.ijbiomac.2017.08.140>
Reference: BIOMAC 8133

To appear in: *International Journal of Biological Macromolecules*

Received date: 25-5-2017
Revised date: 16-8-2017
Accepted date: 27-8-2017

Please cite this article as: Saad M.Ahsan, Mathai Thomas, Kranthi K.Reddy, Sujata Gopal Sooraparaju, Amit Asthana, Ira Bhatnagar, Chitosan as biomaterial in drug delivery and tissue engineering, *International Journal of Biological Macromolecules* <http://dx.doi.org/10.1016/j.ijbiomac.2017.08.140>

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.

Chitosan as biomaterial in drug delivery and tissue engineering

Saad M. Ahsan¹, Mathai Thomas², Kranthi K. Reddy³, Sujata Gopal Sooraparaju³,
Amit Asthana¹ and Ira Bhatnagar^{1*}

¹Centre for Cellular and Molecular Biology (CCMB), Uppal Road, Hyderabad – 500 007, Telangana State, India. Email- saadmahsan@ccmb.res.in

²PSM College of Dental Science and Research, Thrissur-680519, Kerala, India. Email- mathait@hotmail.com

³MNR Dental College and Hospital, Sangareddy- 502294, Telangana State, India. Email- drekkkr@yahoo.co.in, sujasmiles@yahoo.com

*Corresponding author

Email: ira@ccmb.res.in

Address: Dr. Ira Bhatnagar

Senior Scientist

Clinical Research Facility

Medical Biotechnology Complex

Centre for Cellular and Molecular Biology (CCMB)- Annexe-2,

Hyderabad 500 007, India

Ph.No.- +91-40-27195545

Fax No.- +91-40-27160591

Abstract

Chitin is one of the most abundant polysaccharide found on earth. The deacetylated form of chitin viz. chitosan has been reported for its various important pharmacological properties and its role in tissue engineering and regenerative medicine is also well documented. Chitosan based bone graft substitutes are biocompatible, biodegradable, osteoconductive, osteoinductive and structurally similar to bone, with excellent mechanical strength and cost effectiveness. Chitosan based hydrogels and wound healing bandages have also found a great market in the field of medicine. More recently, chitosan has gained popularity for its use as a matrix molecule for drug delivery and also finds an upcoming utility in the area of dentistry. The present article has tried to review the latest research on chitosan based tissue engineering constructs, drug delivery vehicles as well as dental care products. An attempt has also been made to discuss the various modifications of

Download English Version:

<https://daneshyari.com/en/article/8327875>

Download Persian Version:

<https://daneshyari.com/article/8327875>

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