

Accepted Manuscript

Title: Bio-based materials with novel characteristics for tissue engineering applications – A review

Author: Luis Bedian Angel M. Villalba Rodríguez Gustavo Hernández Vargas Roberto Parra-Saldivar Hafiz M.N. Iqbal



PII: S0141-8130(16)32880-X
DOI: <http://dx.doi.org/doi:10.1016/j.ijbiomac.2017.02.048>
Reference: BIOMAC 7103

To appear in: *International Journal of Biological Macromolecules*

Received date: 14-12-2016
Revised date: 8-2-2017
Accepted date: 10-2-2017

Please cite this article as: L. Bedian, A.M.V. Rodríguez, G.H. Vargas, R. Parra-Saldivar, H.M.N. Iqbal, Bio-based materials with novel characteristics for tissue engineering applications ndash A review, *International Journal of Biological Macromolecules* (2017), <http://dx.doi.org/10.1016/j.ijbiomac.2017.02.048>

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.

**Bio-based materials with novel characteristics for tissue engineering applications – A
review**

Luis Bedian, Angel M. Villalba Rodríguez, Gustavo Hernández Vargas, Roberto Parra-
Saldivar, and Hafiz M. N. Iqbal*

School of Engineering and Science, Tecnológico de Monterrey, Campus Monterrey, Ave.
Eugenio Garza Sada 2501, Monterrey, N. L., CP 64849, Mexico; *Corresponding author:
Tel.: +52 (81) 8358 2000 Ext. 5561 Sub-ext.- 115; Email addresses: hafiz.iqbal@itesm.mx;
hafiz.iqbal@my.westminster.ac.uk (H.M.N. Iqbal)

Abstract

Recently, a wider spectrum of bio-based materials and materials-based novel constructs and systems has been engineered with high interests. The key objective is to help for an enhanced/better quality of life in a secure way by avoiding/limiting various adverse effects of some in practice traditional therapies. In this context, different methodological approaches including *in-vitro*, *in-vivo*, and *ex-vivo* techniques have been exploited, so far. Among them, bio-based therapeutic constructs are of supreme interests for an enhanced and efficient delivery in the current biomedical sector of the modern world. The development of new types of novel, effective and highly reliable materials-based novel constructs for multipurpose applications is essential and a core demand to tackle many human health related diseases. Bio-based materials possess several complementary functionalities e.g. unique chemical structure, bioactivity, non-toxicity, biocompatibility, biodegradability, recyclability, etc. that position them well in the modern world's materials sector. In this context, the utilization of biomaterials provides extensive opportunities for experimentation in the field of interdisciplinary and multidisciplinary scientific research. With an aim to address the global dependence on petroleum-based polymers, researchers have been redirecting their interests to

Download English Version:

<https://daneshyari.com/en/article/5512337>

Download Persian Version:

<https://daneshyari.com/article/5512337>

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