Advanced characterizations of nanoparticles for drug delivery: investigating their properties through the techniques used in their evaluations

By: Mohduddin, S; (Mohammad, Syed); Mandal, UK; (Mandal, Urtan Rumi); Chatterjee, II; (Chatterjee, Bappaditya); Taher, M; (Taher, Moharram)

MATERIALS AND DESIGN, 2017

Abstract

Nanomedicine has achieved a huge success in delivering a wide variety of drug molecules into the target site of the body. In this respect, the characterization of nanomedicines is very important to investigate the drug molecule together with its carrier as a nanomedicine during formulation, storage, and in vivo transport through the body. This review article summarizes important advanced characterizations of nanomedicines with respect to their therapies, use of required instrumental parameters, sample preparation techniques, data interpretation, etc., to exploit them for the best possible results. This review article also sheds a glimpse into the shortcomings of these techniques together with further advancement required in future.

Keywords

atomic force microscopy, confocal laser scanning microscopy, ELS, scanning electron microscopy, transmission electron microscopy

Author Information

Reprint Address: Mandal, UK (reprint author)

Address:

I.M. Khalifah Pharma, Dept Pharmaceutical Technol., Jalal Sultan Ahmad Shah, Kuantan 25200, Pahang Darul Iman, Malaysia.

E-mail Address: mandal[u]2007@gmail.com

Publisher

WALTER DE GRAAF GMBH, GENTHER STRASSE 13, D-10715 BERLIN, GERMANY

Categories / Classification

Research Areas: Chemistry, Science & Technology - Other Topics; Materials: Science; Physics

Web of Science Categories: Chemistry, Multidisciplinary; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied

Document Information

Language: English

Accession Number: WOS:000407230400004

ISSN: 2151-0809

DOI: 2151-0809

Other Information

ISI Number: EDOC

Cited References in Web of Science Core Collection: 130

Times Cited in Web of Science Core Collection: 0

Support a correction

If you would like to improve the quality of the data in this record, please suggest a correction.