Preparation of novel nano, micro and macro drug delivery systems via Electrohydrodynamic (EHDA) technologies

Zeeshan Ahmad
De Montfort University, UK

The pharmaceutical engineering remit is undergoing rapid changes to accommodate the need for more complex and smaller drug delivery systems. In recent times, several fabrication methods have been developed (e.g., microfluidics, super critical processing, various emulsion systems and even adapted spray drying technologies) to prepare solid nanoparticles (matrix based), solid complex nanoparticles (layered and core-shell encapsulated), flexible vesicles (e.g., lipidic systems) and even fibrous and casted (e.g., patches) drug delivery systems. Electrohydrodynamic (EHDA) Technologies are a rapidly growing set of enabling platforms which permit the controlled (e.g., size and scalability) and ambient condition (e.g., temperature and pressure) engineering of a variety of dosage forms currently of great interest ranging from the nano- up to the macro-scale. This presentation will focus on introducing the underlying concepts of EHDA technologies and how they operate. In addition examples of nanoparticle, complex nanoparticle and micro drug delivery systems will be demonstrated. The use of such materials using various actives will also be highlighted. Finally future potentials of such technologies will be addressed along with current industrial developments in this area.

Biography

Zeeshan Ahmad obtained his Undergradate Honours and PhD from Queen Mary (University of London) and Post-doctoral studies from Queen Mary and University College London (UCL). At present, he is a Reader in Pharmaceutics at The Leicester School of Pharmacy, De Montfrot University, and has published more than 50 peer-reviewed papers in internationally recognised journals. His research has been funded by the UK research councils, the EU and national charities.

zahmad@dmu.ac.uk

Notes:

Pharm Anal Acta
ISSN: 2153-2435 PAA, an open access journal

Pharmaceutica 2016
March 07-09, 2016

Volume 7, Issue 1 (Suppl)

Page 45