EDITORIAL

Drug Delivery Systems and the Scope of Translational Research (PART - I)

The application of the outcomes of the basic science research to understand better the disease mechanisms for precise diagnoses and effective therapeutics in humans is the essence of “Translational Research.” It is being practiced in various fields, such as health, food and nutrition, engineering, behavioral, and social sciences, etc., to tackle current as well as newer challenges.

An imperative area of translational research in pharmaceuticals is drug delivery, which deals with the technologies, strategies, approaches, systems, and formulations for the transportation of pharmaceutical compounds in the body to achieve the desired therapeutic effect and improved patient health condition [1-3].

In formulation research, a variety of drug delivery/carrier systems have been developed and studied worldwide for addressing the biopharmaceutical challenges of the drugs and improving their therapeutic performance for the treatment of almost all types of ailments like cancers, infections, respiratory, neurological, and cardiovascular disorders, etc. In this regard, multifunctional liposomes and nanoparticles are the most sought after, owing to their biocompatibility, biodegradability and scalability [4-6].

A remarkable application of translation research, recently witnessed by the world, is the successful development of many RNA and DNA vaccines for SARS-Cov-2 virus infection [7]. Ambisome®, Doxil® and Abraxane® are also few examples of successful application of translational research, where novel drug carrier-based products for clinical application were developed [6-8].

Therefore, it can be concluded that to handle enormous issues and challenges associated with public health, the development and clinical application of drug delivery systems and strategies are a boon along with the discovery of new drugs.

Thus, looking at the potential of drug delivery systems, this thematic issue has covered five different reviews on liposomes, nanoparticles and other nanocarriers contributed by the experts in the field of drug delivery research. The articles are focused on the design and development of therapeutic systems for pre-translational to translational applications. These articles will also provide some insight into scientific and technical advancements.

The critical visions from the contributors would be useful, to the readers, for the development of more effective strategies for translational research in the area of drug delivery.

REFERENCES


Guest Editors:

Dr. Amit Bhatia
Department of Pharmaceutical Sciences and Technology
Maharaja Ranjit Singh Punjab Technical University
Bathinda, Punjab 151001, India
Tel: 0091-9216411442
E-mail: drbhatiaamit@gmail.com; dramitbhatia@mrsptu.ac.in

Dr. Sarwar Beg
School of Pharmaceutical Education and Research
Jamia Hamdard (Deemed to be University)
Hamdard Nagar, New Delhi 110062, India
Tel: 0091-8447120434
Email: sarwar.beg@gmail.com; sarwar.beg@jamiahamdard.ac.in

Dr. Shruti Chopra
Amity Institute of Pharmacy
Amity University
Sector 125, Noida, Uttar Pradesh 201303, India
Tel: 0091-8437162637
E-mails: shrutichopra0981@gmail.com; schopra2@amity.edu