World Academy of Science, Engineering and Technology
International Journal of Biomedical and Biological Engineering
Vol:16, No:01, 2022

NanoCelle®: A Nano Delivery Platform to Enhance Medicine

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Abstract : Nanosystems for drug delivery are not new; as medicines evolve, so too does the desire to deliver a more targeted, patient-compliant medicine. Though, historically the widespread use of nanosystems for drug delivery has been fouled by non-replicability, scalability, toxicity issues, and economics. Examples include steps of manufacture and thus cost to manufacture, toxicity for nanoparticle scaffolding, autoimmune response, and considerable technical expertise for small non-commercial yields. This, unfortunately, demonstrates the not-so-obvious chasm between science and drug formulation for regulatory approval. Regardless there is a general and global desire to improve the delivery of medicines, reduce potential side effect profiles, promote increased patient compliance, and increase and/or speed public access to medicine availability. In this paper, the author will discuss NanoCelle®, a nano-delivery platform that specifically addresses degradation and solubility issues that expands from fundamental micellar preparations. NanoCelle® has been deployed in several Australian listed medicines and is in use of several drug candidates across small molecules, with research endeavors now extending into large molecules. The author will discuss several research initiatives as they relate to NanoCelle® to demonstrate similarities seen in various drug substances; these examples will include both in vitro and in vivo work.

Keywords : NanoCelle®, micellar, degradation, solubility, toxicity
Conference Title : ICNDD 2022 : International Conference on Nanosystems for Drug Delivery
Conference Location : London, United Kingdom
Conference Dates : January 21-22, 2022