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Nanomedicine: An Immense Perspective on a Biotherapeutics

Raji Sundararajan

School of Engineering Technology, Purdue University, 401 N. Grant St, W. Lafayette, IN-47907, USA, Tel: 765 494 6912; E-mail: raji@purdue.edu

Editor Note

Journal of Nanomedicine and Biotherapeutic Discovery Volume 6, Issue 1 comprises of 3 research articles and 4 editorials, addressing the most advanced applications of the silver and gold nanoparticles. The articles received from across the globe like Saudi Arabia, USA, Russia, Mexico, Germany and Japan enriched the existing pool of knowledge in this field.

Ahmad U, et al., in their editorial envisaged about smart nanobots with respect to their future applications in the nanomedicine and bio-therapeutics. In a first of its kind study on smart nanobot's capablities targeted drug delivery, to deliver highly toxic medicines directly to cancer tumors without compromising surrounding tissue [1].

Sundararajan R., addressed about electro spun-nanofibers for controlled, more effective chemotherapy, in her editorial, the author discussed about the dramatic increase in poorly soluble drugs. It also empowers controlled release of drugs by delivering more than one drug molecules to enhance the drug efficacy, and has the potential to be the next generation of chemotherapy method [2].

Zhang Z, et al., in their editorial discussed about the sustained release of minocycline hydrochloride from biomaterials. This article summarized several biomaterial-based drug delivery systems for sustained release of MH for biomedical applications and these methods may be used for drug delivery of other drug molecules [3].

Russian scientist Bachurin's editorial described the mitochondrial permeability transition pore as a promising target for the novel neuroprotective agents. In view of the factors involved in metabolic disturbances like acidosis, excitotoxicity, oxidative stress, neuroinflammation, pathological aggregation of some proteins, and deregulation of mitochondrial functions. Authors have concluded that the mitochondrial permeability transition holds promising futurefor many neuroprotective agents [4].

Fragoso LR, et al., evaluated the pharmacokinetics parameters of CdS-MDx QDs of different tissues as a model system for determining their tissue uptake and time of residence and elimination. The study observed CdS-MDx QDs as a nanomateria and acts as a favorable pharmacokinetics properties to develop novel therapeutic and diagnostic modalities [5].

Bhattacharyya S, et al., worked on the current challenges of designing a carrier that plays a critical role to modulate various internalization pathways of a cargo. This article reported the design, synthesis and in vitro demonstration of an artificial Nano Glucose Transporter (NGT) to capture the extracellular glucose and carry them upto the cell when added exogenously, independent of endogenous cellular transporter pathways [6].

References

1. Ahmad U, Faiyazuddin Md (2016) Smart Nanobots: The Future in Nanomedicine and Biotherapeutics. J Nanomedine Biotherapeutic Discov 6: e140.
2. Sundararajan R (2016) Electrospun-nanofibers for Controlled, More Effective Chemotherapy. J Nanomedine Biotherapeutic Discov 6: e141.
3. Zhang Z, Zhong Y, Ji HF (2016) Sustained Release of Minocycline Hydrochloride from Biomaterials. J Nanomedine Biotherapeutic Discov 6: e142.
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5. Fragoso LR, Sancha IG, Esparza JR, Fragoso PR (2016) Pharmacokinetics of Maltodextrin Coated Cadmium Sulfide Quantum Dots in Rats. J Nanomedine Biotherapeutic Discov 6: 139.
6. Bhattacharyya S, Kattel K, Kim F (2016) Modulating the Glucose Transport by Engineering Gold Nanoparticles. J Nanomedine Biotherapeutic Discov 6: 141.