

American Journal of Drug Delivery

and Therapeutics

ISSN: 2349-7211

Open access Commentary

Progresses in Nano Drug Conveyance Frameworks for Ischemic Stroke Theranostics

Jie Zhou*

Department of Pharmaceutical, Newcastle University, United Kingdom

DESCRIPTION

This innovative therapeutic strategy harnesses the body's immune system to recognize and target diseased cells, offering a more targeted and less toxic alternative to conventional treatments. Gene editing technologies, such as CRISPR-Cas9, have the potential to revolutionize therapeutics by precisely modifying genetic material to correct or mitigate disease-causing mutations. These technologies hold promise for treating genetic disorders, advancing regenerative medicine, and improving the success of organ transplantation. Digital therapeutics, including mobile apps, wearable devices, and telemedicine platforms, are transforming the way healthcare is delivered. These technologies empower patients to actively participate in their own care, monitor their health conditions, and receive remote consultations and interventions. Furthermore, the integration of artificial intelligence and machine learning algorithms has the potential to revolutionize drug discovery and treatment optimization. Al can analyze vast amounts of data, identify patterns, and assist in predicting treatment outcomes, enhancing clinical decision-making and accelerating the development of new therapies. The field of drug and therapeutics continues to advance, offering new hope and improved outcomes for patients worldwide. From the development of life-saving medications to the implementation of innovative treatment approaches, drug and therapeutics play a pivotal role in modern healthcare. As we embrace emerging trends and harness the power of scientific and technological advancements, the future of medicine holds tremendous potential for further enhancing patient care, addressing unmet medical needs, and transforming the way we prevent, diagnose, and treat diseases.

The development of effective drugs and therapeutic interventions is crucial for combating diseases and improving patient outcomes. Over the years, significant advancements have been made in the field of pharmacology and therapeutics, leading to the discovery of life-saving drugs and innovative treatment approaches. In this article, we will explore the dynamic landscape of drug development and therapeutic interventions, highlighting the key advancements, challenges, and the transformative impact they have on healthcare.

The process of drug development has undergone a remarkable transformation, thanks to advances in science, technology, and our understanding of human biology. From the initial stages of drug discovery to clinical trials and regulatory approval, several key advancements have propelled the field forward. One such advancement is the emergence of high-throughput screening techniques, which enable the rapid testing of thousands of compounds for their therapeutic potential. These screening platforms, coupled with computational modeling and artificial intelligence, have accelerated the identification of lead compounds, expediting the drug discovery process. Furthermore, the advent of precision medicine and genomics has revolutionized drug development. Personalized therapies that target specific genetic mutations or disease biomarkers are becoming a reality, leading to more effective treatments with fewer side effects. The development of monoclonal antibodies and targeted therapies exemplifies this approach, offering new hope for patients with previously untreatable conditions. In addition to drug development, therapeutic interventions have also witnessed significant innovation, paving the way for personalized and targeted treatments. One of the key breakthroughs in re-

 Received:
 02-January-2023
 Manuscript No:
 IPADT-23-16667

 Editor assigned:
 04-January-2023
 PreQC No:
 IPADT-23-16667 (PQ)

 Reviewed:
 18-January-2023
 QC No:
 IPADT-23-16667 (R)

 Revised:
 23-January-2023
 Manuscript No:
 IPADT-23-16667 (R)

Published: 30-January-2023 **DOI:** 10.35841/2349-7211.23.10.04

Corresponding author Jie Zhou, Department of Pharmaceutical, Newcastle University, United Kingdom, E-mail: zhou_j@gmail.com

Citation Zhou J (2023) Progresses in Nano Drug Conveyance Frameworks for Ischemic Stroke Theranostics. Am J Drug Deliv Ther. 10:04.

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cent years has been the rise of immunotherapy. This innovative approach harnesses the body's immune system to fight diseases, particularly cancer. Therapies such as immune checkpoint inhibitors and CAR-T cell therapy have shown remarkable success in treating various types of cancer, revolutionizing oncology treatment. Moreover, the field of gene therapy has emerged as a promising avenue for treating genetic disorders. By introducing functional genes or correcting genetic mutations, gene therapies aim to restore normal cellular functions. Recent suc-

cesses in gene therapy, such as the treatment of spinal muscular atrophy and inherited retinal diseases, have showcased the immense potential of this approach.

ACKNOWLEDGEMENT

None.

CONFLICT OF INTEREST

The author's declared that they have no conflict of interest.