

Quantum dots as a platform for nanoparticle drug delivery vehicle design

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The paper “ Quantum Dots as a Platform for Nanoparticle Drug Delivery Vehicle Design by Probst, Zrazhevskiy, et Al” is a meaty variant of an article on physics. The article offers a critical evaluation of the Nanoparticle-based drug delivery (NDD) research findings. As the article highlights, NDD is among the most promising approach that can enhance effectiveness on the existing drugs. Modern scholars have been engaging in researches with the aim of identifying reasons why some drugs are inactive on human bodies. Furthermore, NDD has proved reliable in facilitating the development of new health intervention measures. Based on the article study, NDD is also reliable in reducing the toxicity of the existing drugs (Probst, Zrazhevskiy, Bagalkot & Gao X., 2013).

The article commences by offering opinions from influential global leaders on some of the most reliable means of addressing the threatening healthcare challenges in the world. Nixon observed that the existing drugs have been ineffective in offering the required treatment on severe healthcare challenges including cancer. Furthermore, in their observations, the article authors observed that nanomedicine had a lasting solution to the challenge of adaptive resistance to health intervention measures and tumor heterogeneity. Therefore, in their observation, the article authors proposed the adoption of collective policies that will help in the adoption of holistic means of addressing adaptive resistance to drugs and therapy.

The article also reviews the possibilities of engineering NDD vehicles through integrating quantum dots and semiconductor nanocrystals. Furthermore, the

article authors assert that the treatment of severe health challenges requires a clear understanding of the influence of nanoparticle properties in human biological systems. Equally, systematic evaluation of all NDD stages is critical in facilitating effective treatment of severe healthcare challenges. The article also offers a clear evaluation of some of the main features of QDots. The versatile surface chemistry and small size of QDots facilitate its effective corporation with the NDD vehicles. Moreover, the passivity and coating of QDots reduce the possibility of releasing toxic products into the body. The unique nature of QDots is also essential in monitoring and facilitating effective transportation of drugs in systematic body cellular.

The article is also vital in offering a clear analysis of the contribution of quantum dots in nanocarriers designs. The quantum dots are a reliable presentation of versatile platforms that enhance the engineering and designing of NDD vehicles. As stated in the article, the understanding of quantum dots will help modern scholars utilize the unique features of QDots in developing productive and more reliable drugs of dealing with modern health challenges.

The article also presents the role of NP-antigen delivery in enhancing effective immunotherapy. In their evaluation, the article authors expound on the significance of designing NPs that hinders its interaction with the immune system. In most instances, the interaction between the NPS and immune systems reduces blood circulation in the body. The reduction of blood circulation in the body results in ineffective operations of critical body

organs including lungs and hearts. According to the article, NDD offers mechanisms that facilitate the reliable overcoming of critical limitations experienced in free drug formulations. NDD also presents dependable means of transforming the formulation of pharmacological properties of modern drugs. Additionally, NDD and QDots properties are critical in helping modern scholars understand the biological impacts of inappropriate formulation of modern drugs.

The article authors further state that QDots is a vital agent in enhancing the necessary changes of modern drugs. The dots are also a reliable and ideal platform that enhances effective characterization of NDD vehicles.

Furthermore, the dots have made reliable contribution in facilitating the dynamic and critical evaluation of the nanocarrier cell. Other critical roles of QDots include facilitating bio-distribution, circulation half-times, and intracellular distributions. Changes in the modern microenvironment are also responsible for undermining the effectiveness of modern healthcare intervention measures. Therefore, an understanding of the microenvironment might be useful in facilitating the uncovering of complicated changes in nanocarriers cells. An understanding of the changes in the nanocarrier cell will be critical in facilitating the adoption of reliable intervention measures of modern intricate healthcare challenges.

The article also quoted researches conducted by other professionals regarding the role of dots. Past scholars affirm that the functionalities and physical properties of QDots are of the essence in enhancing the evaluation

and operations of NDD. In its conclusion, the article has offered options for future researches. The article's authors recommend for a detailed evaluation of the role of NDD on a wide range of drugs on the human body. The article conclusion and recommendation for future researches will be essential in helping modern scholars undertake researches regarding the role of QDots in enhancing effective operations of NDD.