

عنوان مقاله:

The Applications of Nanobiomaterials in Drug Delivery

محل انتشار:

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خلاصه مقاله:

In recent years, novel technologies in medication design and drug delivery strategies have evolved to overcome current challenges, such as biological barriers. Nanobiomaterials has shown a significant potential as efficient drug carriers due to their varying sizes and unique characteristics. They can pass through various biological barriers including brain and cell membranes. Furthermore, nanobiomaterials have been applied in other medical applications, such as molecular imaging and the detection of many disease markers. Several organic and inorganic nanomaterials have been synthesized; however, organic nanoparticles like liposomes, dendrimers, and polymeric micelles, are more biocompatible and therefore are widely used in medicine. Because of suitable stability and easy scaled-up production of inorganic nanomaterials composed of metal elements (silver-based and gold-based nanoparticles) or non-metal elements (such as quantum dots), they have been widely used in industry. In spite of the boundless benefits of these innovative drug carriers, there is a lack of understanding about the potential hazards and risks of using these compounds for humans. This article provides an overview of some nanoparticles currently being used in drug delivery systems. We have classified nanoparticles based on their structures and explained how these materials can be used in drug delivery systems to treat a wide range of diseases. Furthermore, we have described the threats of applying these materials as drug carriers and what the future holds for nanomaterials in medicine.

کلمات کلیدی:

Nanobiomaterials, Drug delivery, Nanomedicine, Therapeutic agents

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