

Nanotechnology in Drug Delivery Systems

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Abstract. Nanotechnology has opened new frontiers in drug delivery systems, enhancing the efficacy and precision of treatments. This article reviews the latest advancements in nanocarrier designs and their applications in targeted drug delivery. The authors discuss how nanotechnology is reshaping the pharmaceutical landscape by enabling controlled release and reducing side effects, thereby improving patient compliance and treatment outcomes.

Keywords: Nanotechnology, Drug Delivery, Nanocarriers, Pharmaceuticals, Targeted Therapy

Introduction

The integration of nanotechnology into drug delivery systems has revolutionized the pharmaceutical industry, providing new opportunities for targeted and controlled drug release. This article examines recent innovations in nanocarrier designs, including liposomes, dendrimers, and polymeric nanoparticles, and their applications in various therapeutic areas. The discussion emphasizes the advantages of nanotechnology in improving drug efficacy and reducing adverse effects. Moreover, the article explores future directions and potential challenges in the field.

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References

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