

Nanotechnology in Cancer Treatment: A New Frontier

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Abstract. This article explores the application of nanotechnology in cancer treatment, focusing on its potential to revolutionize therapeutic approaches. Nanoparticles offer targeted drug delivery systems, minimizing side effects and enhancing treatment efficacy. The article reviews current research on nanoparticle-based therapies and their clinical applications in oncology. By highlighting case studies and experimental findings, it underscores the promise of nanotechnology in developing more effective cancer treatments. The study emphasizes the need for further research to overcome existing challenges in this emerging field.

Keywords: nanotechnology, cancer treatment, targeted drug delivery, oncology, nanoparticles

Introduction

Nanotechnology has introduced a new dimension in cancer treatment, offering innovative solutions to overcome traditional therapeutic limitations. This article examines the role of nanotechnology in oncology, particularly its application in targeted drug delivery systems. Nanoparticles can precisely deliver drugs to cancer cells, reducing side effects and improving treatment outcomes. The article reviews current research and clinical applications of nanoparticle-based therapies, highlighting promising case studies and experimental findings. Despite its potential, the field faces challenges that require further investigation to fully harness nanotechnology's capabilities in cancer treatment.

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