



cancers



Special Issue Reprint

Exosomes in Cancers Therapy

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In recent years, small extracellular vesicles (EVs), particularly exosomes, have emerged as new delivery vehicles in cancer treatment. These 30–150 nm vesicles play a critical role in cellular communication and also offer a new approach to drug delivery. Exosomes carry proteins, lipids, and nucleic acids, and their unique ability to naturally facilitate intercellular communication is opening up new possibilities for targeted drug delivery and immunotherapy in cancer treatment. While cancer-derived exosomes can contribute to tumor growth and metastasis, this same mechanism can be repurposed as a powerful therapeutic tool. Researchers are exploring their use as biomarkers for diagnosis and prognosis, as well as nano-carriers for delivering small molecules and biologics. Their ability to stabilize drugs, cross biological barriers such as the blood–brain barrier, and low toxicity make them especially attractive for therapeutic applications. This collection of articles focuses on the evolving role of exosomes in cancer therapy, highlighting their benefits and the problems with bringing them into clinical practice. Given the challenges in scaling up cell-derived exosomes for common use, bovine milk and colostrum have emerged as promising and abundant sources for exosome-based drug delivery systems. With their high exosome yield and established safety, milk-derived exosomes could become vital to the future of cancer treatment. The Special Issue also contains articles with preclinical and clinical studies, examining the potential of exosome-based platforms for the oral delivery of cancer drugs and biologics.



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