Exosomal miRNAs and proteins in glioma

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Video Byte

Keywords: Cell Communication and Signaling, gliomas, exosomes, microRNAs, proteins, pathogenesis, therapy, biomarkers, glioblastoma, extracellular vesicles, microvesicles, endocytosis, miRNAs, biogenesis, endosomal sorting complex, ESCRT, GBM, chemotherapy resistance, central nervous system, mesenchymal stem cells

Posted Date: November 11th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-106071/v1>

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Abstract

Malignant gliomas are the most common and the deadliest type of tumor affecting the central nervous system. Even after surgery, chemotherapy, and radiotherapy, gliomas can still have a poor prognosis. But growing evidence is pointing to one promising target for fighting glioma. Exosomes are tiny sacs of cellular matter implicated in numerous cell processes, including signaling and communication and glioma progression. miRNAs are among the most important glioma-related payloads shuttled between cells by exosomes. In addition to increasing the risk of developing glioma, miRNAs can confer chemotherapy drug resistance from one cell to another or they can even help inhibit glioma tumor growth. Researchers are discovering that exosomal proteins may play similar roles. Understanding how exosomes operate and how they might be manipulated, could help researchers and clinicians deliver more powerful anti-cancer therapies to patients with glioma.