

Therapeutic potential of marine peptides in glioblastoma: Mechanistic insights

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Abstract

Glioblastoma multiforme (GBM) is the most common primary malignant brain tumor in humans. It is characterized by excessive cell growth and accelerated intrusion of normal brain tissue along with a poor prognosis. The current standard of treatment, including surgical removal, radiation therapy, and chemotherapy, is largely ineffective, with high mortality and recurrence rates. As a result, traditional approaches have evolved to include new alternative remedies, such as natural compounds. Aquatic species provide a rich supply of possible drugs. The physiological effects of marine peptides in glioblastoma are mediated by a range of pathways, including apoptosis, microtubule balance disturbances, suppression of angiogenesis, cell migration/invasion, and cell viability; autophagy and metabolic enzymes downregulation. Herein, we address the efficacy of marine peptides as putative safe therapeutic agents for glioblastoma coupled with detail molecular mechanisms.