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Targeting cell cycle checkpoints for glioma therapy

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Abstract

Glioma is a devastating disease associated with unfavorable clinical outcomes. Current standard treatments, including surgery, radiotherapy, and chemotherapy, are largely palliative and offer limited improvements in survival rates. Glioma is characterized by high proliferative capacity, which is primarily through exploiting the dysregulated cell cycle mechanisms for disease progression. Over the past few decades, targeting the glioma cell cycle-particularly key molecules involved in cell cycle checkpoints-has been a promising direction for future glioma therapeutics. In this review, we summarize the distinctive molecular patterns of cell cycle in glioma, and discuss emerging targeted therapies designed for glioma cell cycle regulators.

Keywords: Cell cycle; Checkpoint; Cyclin dependent kinase; Glioma; Myt1 kinase.

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