MicroRNA-613 (miR-613) has recently been reported as a novel tumor-related MicroRNA that plays an important role in multiple cancers. However, the expression and functional significance of miR-613 in glioma remains unclear. In this study, we aimed to investigate the biological function of miR-613 in glioma. We found that miR-613 expression was frequently downregulated in glioma tissues and cell lines compared with normal controls. Overexpression of miR-613 impeded proliferation and colony formation and induced cell cycle arrest in G0/G1 phase, and also inhibited the invasive ability of glioma cells. By contrast, miR-613 inhibition had the opposite effects. Bioinformatic analysis and dual-luciferase reporter assays showed that miR-613 directly targets the 3'-untranslated region of cyclin-dependent kinase 14 (CDK14). Real-time quantitative PCR and Western blot analysis showed that CDK14 expression is negatively regulated by miR-613. In addition, miR-613 expression was inversely correlated with CDK14 expression in clinical glioma tissues. Moreover, overexpression of miR-613 decreased the protein expression of β-catenin and inhibited the activation of Wnt signaling. Importantly, the antitumor effects of miR-613 were significantly reversed by CDK14 overexpression. Overall, our results show that miR-613 inhibits glioma cell proliferation and invasion by downregulating CDK14, suggesting that miR-613 and CDK14 may serve as potential therapeutic targets for the treatment of glioma [1].

1)

Li Q, Zhou L, Wang M, Wang N, Li C, Wang J, Qi L. MicroRNA-613 impedes the proliferation and invasion of glioma cells by targeting cyclin-dependent kinase 14. Biomed Pharmacother. 2017 Dec 28;98:636-642. doi: 10.1016/j.biopha.2017.12.044. [Epub ahead of print] PubMed PMID: 29289838.