Despite the well-characterized expression profile of miR-351 in the nervous system, its molecular mechanisms in glioma still remain elusive.

Wu et al. intended to assess the regulatory function of miR 351 on nuclear apoptosis-inducing factor 1 (NAIF1) and, thereby, modulation of cancerous behaviors of human glioma cell lines. Two human glioma cell lines (U87 and U251) and normal human astroglia (NHA) cell line were cultured. The cell lines were prepared and transfected with mimic, inhibitor, and negative controls (NCs) of miR-351, then MTT and wound healing assays were performed. They extracted the total protein for western blotting assay and isolated the total RNA for real-time PCR. The miR-351 expression was significantly decreased in U87 and U251 cell lines compared with the NHA cell line ($P < 0.05$). NAIF1 expression was significantly higher in glioma cell lines compared with the NHA cell line ($P < 0.05$). Moreover, the NAIF1 expression showed a negative correlation with miR-351 ($P = 0.005$, $r = -0.522$). Apoptosis was significantly decreased in both cell lines transfected with miR-351 mimics compared with the NC group at 72 and 96 h after transfection ($P < 0.05$) and significantly increased in the transfected group with miR-351 inhibitors compared with the NC group at 72 and 96 h after transfection ($P < 0.05$). According to our results, after 24 and 48 h, migration was increased in the mimic group compared with the miR-351 NC group and decreased in the inhibitory group compared with the miR-351 NC group in the U251 cell line. The findings provide theoretical evidence that miR-351, which targets NAIF1, could be considered an important marker in the pathogenesis of glioma. Furthermore, miR-351 has valuable potential to serve as a new prognostic and diagnostic biomarker and could be considered a potential target for the treatment of this cancer in the near future [1].

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Wu X, Hu C, Long C, Zhai X, Liang P, Yu Z. MicroRNA-351 Promotes the Proliferation and Invasion of Glioma Cells through Downregulation of NAIF1 [published online ahead of print, 2020 Jun 6] [published correction appears in J Mol Neurosci. 2020 Jul 14;:]. J Mol Neurosci. 2020;10.1007/s12031-020-01582-z. doi:10.1007/s12031-020-01582-z