miR 5188

The biological effect and molecular mechanism of miR-5188 have not been thoroughly investigated.

A study elucidated the role of miR-5188 in glioma progression. Human glioma cell lines and tissues were used for functional and expression analysis. Cellular and molecular techniques were performed to explore the functions and mechanisms of miR-5188 in glioma. In the investigation, they demonstrated that miR-5188 promoted cell proliferation, the G1/S transition of the cell cycle, migration and invasion in glioma and reduced the lifespan of glioma-bearing mice. miR-5188 directly targeted FOXO1 and activated PI3K/AKT-c-JUN signalling, which enhanced miR-5188 expression. Moreover, the c-JUN transcription factor functionally bound to the miR-5188 promoter region, forming the positive feedback loop. The feedback loop promoted glioma progression through activating the PI3K/AKT signalling, and this loop is augmented by the interaction between SP1 and c-JUN. Moreover, it was also found that the miR-5188/FOXO1 axis is facilitated by SP1-activated PI3K/AKT/c-JUN signalling. In glioma samples, miR-5188 expression was found to be an unfavourable factor and was positively associated with the mRNA levels of SP1 and c-JUN, whereas negatively associated with the mRNA levels of FOXO1. The investigation demonstrates that miR-5188 could function as a tumour promoter by directly targeting FOXO1 and participating in SP1-mediated promotion of cell growth and tumorigenesis in glioma [1].

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Yi R, Yang S, Lin X, et al. miR-5188 augments glioma growth, migration and invasion through an SP1-modulated FOXO1-PI3K/AKT-c-JUN-positive feedback circuit [published online ahead of print, 2020 Sep 9]. J Cell Mol Med. 2020;10.1111/jcmm.15794. doi:10.1111/jcmm.15794