Threonyl-tRNA synthetase like 2

Liu et al. demonstrated that microRNA-720 (miR-720) was significantly upregulated in glioma tissues and cells. Functional experiments showed that overexpression of miR 720 promotes glioma migration and invasion, while downregulation of miR-720 inhibits glioma migration and invasion. Meanwhile, they found that threonyl-tRNA synthetase like-2 (TARSL2) was a direct and functional target of miR-720 in glioma. Reintroduction of TARSL2 into glioma cells repressed the invasion promoting function of miR-720, whereas downregulation of TARSL2 reversed the anti-invasion function of anti-miR-720. Furthermore, quantitative real-time polymerase chain reaction results showed that miR-720 was inversely correlated with TARSL2 expression in 40 Glioblastoma tissues. Finally, in vivo experiments showed that miR-720 promotes glioma growth and upregulates invasion-related genes in nude mice. Overall, our findings suggest increasing miR-720 enhances glioma migration and invasion through downregulation of TARSL2, which may provide novel insight into the treatment of glioma [1)].

1)
Liu Y, Jiang K, Zhi T, Xu X. miR-720 is a key regulator of glioma migration and invasion by controlling TARSL2 expression. Hum Cell. 2021 May 23. doi: 10.1007/s13577-021-00551-x. Epub ahead of print. PMID: 34024034.