MiR-132

In molecular biology miR-132 microRNA is a short non-coding RNA molecule. Several targets for miR-132 have been described, including mediators of neurological development, synaptic transmission, inflammation and angiogenesis.

Geng et al., found that over-expression of miR-132 inhibited cell proliferation and migration and triggered apoptosis, while knockdown of miR-132 showed opposite effects. PEA-15 was identified as a direct target of miR-132. Reintroduction of PEA-15 without 3'UTR region reversed the inhibitory effects of miR-132 on cell proliferation, migration, and apoptosis. MiR-132 was inversely correlated with the PEA-15 expression. CREB (cAMP response element binding protein) and KLF (Krüppel-like factor 8) were conformed as transcription factors of miR-132, which bidirectionally regulate the expression of miR-132. Our study suggests that miR-132 is an important tumor suppressor of astrocytoma progression by targeting PEA-15, while CREB and KLF can modulate the expression of miR-132, thus providing new insight into the molecular mechanisms underlying astrocytoma progression in vitro [1].

1)
Geng F, Wu JL, Lu GF, Liang ZP, Duan ZL, Gu X. MicroRNA-132 targets PEA-15 and suppresses the progression of astrocytoma in vitro. J Neurooncol. 2016 Sep;129(2):211-20. doi: 10.1007/s11060-016-2173-2. Epub 2016 Jun 13. PubMed PMID: 27294355.