miR 148

Xu et al. investigated the effect of miR-148b-3p on invasion and migration of glioma cells and the possible molecular mechanism.

Human glioma U251 cells were cultures in vitro. MiR-148b-3p mimic or negative control was transfected into U251 cells by Lipofectamine 2000 transfection reagent, which were recorded as miR-148b-3p group and NC group, respectively. A blank control (Ctr group) was set. Real-time quantitative polymerase chain reaction (qRT-PCR) was used to detect the transfection effect. Transwell assay was used to detect the invasive ability of U251 cells in each group. The scratch test was used to detect the migration ability of U251 cells in each group. The concentrations of matrix metalloproteinase-2 (MMP-2) and matrix metalloproteinase-9 (MMP-9) in the supernatant of the cells were determined by enzyme-linked immunosorbent assay (ELISA). Western blot was used to detect the expressions of Wnt signaling pathway-related proteins in cells. Results: The qRT-PCR experiment showed that the expression level of miR-148b-3p in U251 cells of miR-148b-3p group (2.45±0.25) was significantly higher than that of NC group (0.97±0.10) and Ctr group (1.00±0.11) ($P<0.05$). Transwell and scratch experiments showed that the number of invasive cells (50.62±5.36) in miR-148b-3p group was significantly lower than those in NC group (108.84±10.14) and Ctr group (113.40±10.06) ($P<0.05$). The results of the scratch experiment showed that the cell migration rate of miR-148b-3p group (23.19±2.50)% was significantly lower than those of NC group (51.81±5.25)% and Ctr group (52.06±5.33)% ($P<0.05$). Overexpression of miR-148b-3p inhibited the expressions of MMP-2 and MMP-9, downregulated the expressions of Wnt1 and GSK-3β protein.

miR-148b-3p can inhibit the invasion and migration of human glioma U251 cells by inhibiting the activation of Wnt signaling pathway [1)]

1)
Xu H, Shen J, Xie LJ. Zhonghua Zhong Liu Za Zhi. 2020;42(7):565-569. doi:10.3760/cma.j.cn112152-20200422-00367