study aims to investigate the expression of metastasis-associated gene 1 (MTA1) in human medulloblastoma, and its significance in the invasion and metastasis in a medulloblastoma cell line. Positive expression rate of MTA1 protein in medulloblastoma and adjacent normal tissues collected from 29 medulloblastoma patients was detected by immunohistochemistry assay in vivo. In in vitro experiments, Daoy cells were transfected with MTA1-targeted small interfering RNA (siRNA, MTA1-siRNA group), niRNA (MTA1-niRNA group), and plasmid vectors (control group). Transfection efficiency was evaluated by PT-PCR and western blot; cell adhesion, migration, and invasion capacity was assessed by adhesion assays, scratch assays, and transwell chamber invasion assays, respectively. Results indicated that the positive expression rate of MTA1 protein in the medulloblastoma tissues was higher as compared with that of the adjacent normal tissues ($P < 0.05$). In addition, mRNA and protein expression of MTA1 in the MTA1-siRNA group was lower than that in the control and MTA1-niRNA groups ($P < 0.05$). Adhesion, migration, and invasion capacity of Daoy cells in the MTA1-siRNA group was inhibited as compared with the control and MTA1-niRNA groups ($P < 0.05$). In conclusion, MTA1 expression was increased in medulloblastoma cells, while MTA1 knockdown in medulloblastoma cells inhibited MTA1 expression. In addition, MTA1 knockdown inhibited the adhesion, migration, and invasive capabilities of medulloblastoma cells. It is possible that MTA1 can serve as a biomarker and a potential therapeutic target for medulloblastoma [1)].

1)
Chen YS, Li SP, Xiao H, Xie ZY, Tan MX, Liu B, Zhang WM. Metastasis-associated gene 1 expression in human medulloblastoma and its association with invasion and metastasis in medulloblastoma Daoy cell lines. Genet Mol Res. 2016 Jun 17;15(2). doi: 10.4238/gmr.15027894. PubMed PMID: 27323185.

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