TRIP13

This study aimed to investigate the effect of interfering thyroid hormone receptor interacting protein 13 (TRIP13) expression on the proliferation, apoptosis and metastasis of thyroid cancer (TC) cells and the involved mechanisms. RT-PCR, immunohistochemical analysis and western blot found that compared with normal tissues, the expressions of TRIP13 and N-cadherin in TC tissues were significantly increased, while the expressions of tetratricopeptide repeat protein 5 (TTC5), p-p53 and E-cadherin were significantly decreased ($P < 0.05$). RT-PCR and western blot revealed that compared with C643 cells, TRIP13 expression in TPC1 cells and BHT101 cells increased significantly ($P < 0.05$). Therefore, TPC1 cells and BHT101 cells were selected for subsequent experiments. Interference efficiency of TRIP13 interference sequences (sh-TRIP13) was verified by RT-PCR and western blot. After sh-TRIP13 transfection, cell viability and migration rates of cells at 24 h and 48 h decreased significantly ($P < 0.05$); the number of S phase cells increased remarkably, while the number of G1 and G2 phase cells decreased significantly ($P < 0.05$); cell apoptosis was enhanced sharply ($P < 0.05$); cell numbers in the lower chamber of Transwell assay were reduced significantly ($P < 0.05$). RT-PCR and western blot found that compared with the Control group, expressions of TTC5 and E-cadherin in sh-TRIP13 group were elevated sharply, while N-cadherin expression decreased significantly ($P < 0.05$). Compared with the Control group, sh-TRIP13 transfection elevated the ratio of p-p53 expression to p53 expression (p-p53/p53) remarkably ($P < 0.05$). In conclusion, TRIP13 interference inhibited the proliferation and metastasis of thyroid cancer cells through regulating TTC5/p53 pathway and epithelial-mesenchymal transition related genes expression [1].

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Yu L, Xiao Y, Zhou X, Wang J, Chen S, Peng T, Zhu X. TRIP13 interference inhibits the proliferation and metastasis of thyroid cancer cells through regulating TTC5/p53 pathway and epithelial-mesenchymal transition related genes expression. Biomed Pharmacother. 2019 Oct 21;120:109508. doi: 10.1016/j.biopha.2019.109508. [Epub ahead of print] PubMed PMID: 31648166.