

# TRIM48

Xue et al. found that tripartite motif-containing 48 (TRIM48) was reduced in human glioblastoma (GBM) cell lines. We investigated whether and how TRIM48 functions in human GBM in vitro.

**MATERIAL AND METHODS** Human GBM cells (U87 MG and U138 MG) were infected with lentivirus to overexpress TRIM48, and 1 human GBM cell line (T98G) was infected with siRNAs to knock down TRIM48 expression. Techniques used included cell proliferation assay, measured by CCK-8 and BrdU-ELISA method, and cell cycle assay, determined using flow cytometry. Curcumin, a specific activator of extracellular signal regulated kinases (ERK1/2), or PD98059, a specific inhibitor of ERK1/2, was used to activate or block the ERK1/2 pathway, respectively. Expression of phosphorylated (p)-ERK1/2, and its downstream targets (Cyclin D1) were measured to assess the mechanism. **RESULTS** Our data suggest that overexpression of TRIM48 reduces the viability of U87 MG and U138 MG and leads to cell cycle arrest (in G0-G1 phase), which is associated with blockade of the ERK1/2 pathway and reduction of Cyclin D1. In contrast, knockdown of TRIM48 resulted in the opposite effects. Interestingly, the inhibitory effect of TRIM48 overexpression on human GBM cell growth and the inactivation of ERK1/2 were significantly alleviated with additional curcumin treatment, while it promoted the effect of siTRIM48 on human GBM cell growth, and the activation of ERK1/2 was significantly alleviated with additional PD98059 treatment. **CONCLUSIONS** TRIM48 suppressed the growth of human GBM cell via the prevention of ERK1/2 activation <sup>1)</sup>.

<sup>1)</sup>

Xue LP, Lu B, Gao BB, Shi YY, Xu JQ, Yang R, Xu B, Ding P. Overexpression of Tripartite Motif-Containing 48 (TRIM48) Inhibits Growth of Human Glioblastoma Cells by Suppressing Extracellular Signal Regulated Kinase 1/2 (ERK1/2) Pathway. *Med Sci Monit.* 2019 Nov 8;25:8422-8429. doi: 10.12659/MSM.916024. PubMed PMID: 31703057.

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