

Diffuse invasion is an important factor leading to treatment **resistance** and a poor **prognosis** in gliomas. Zhang et al. found that **expression** of the tripartite motif containing 56 (TRIM56), a **RING-finger domain** containing **E3 ubiquitin ligase**, was markedly higher in glioma than in normal brain tissue, and was significantly correlated with malignant **phenotypes** and a poor **prognosis**. **In vitro** and **in vivo** experimental studies revealed that TRIM56 promoted the migration and invasion of **glioma cells**. Mechanistically, TRIM56 was transcriptionally regulated by **SP1** and promoted the K48-K63-linked poly-ubiquitination transition of **IQGAP1** at Lys-1230 by interacting with it, which in turn promoted **CDC42** activation. This mechanism was confirmed to mediate glioma migration and invasion. In conclusion, our study provides insights into the mechanisms through which TRIM56 promotes glioma motility, i.e., by regulating IQGAP1 ubiquitination to promote CDC42 activation, which might be clinically targeted for the treatment of glioma ¹⁾.

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Zhang Q, Zheng J, Wu W, Lian H, Iranzad N, Wang E, Yang L, Wang X, Jiang X. TRIM56 acts through the IQGAP1-CDC42 signaling axis to promote glioma cell migration and invasion. Cell Death Dis. 2023 Mar 4;14(3):178. doi: 10.1038/s41419-023-05702-6. PMID: 36870986.

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