## circSCAF11

Circular RNAs (circRNAs) are a novel category of non-coding RNAs, and they have been identified to participate in glioma tumorigenesis. Here we investigated the functions of circRNA circSCAF11 in glioma genesis, and we unveiled its molecular mechanism in the pathophysiological process. Expression levels of circSCAF11, miR-421, and SP1 mRNA were measured using RT-PCR. Proteins were measured using western blotting. The tumor phenotypes of glioma cells were detected using flow cytometry and Cell Counting Kit-8 (CCK-8), transwell, and xenograft mouse assays. The combination within circSCAF11, miR-421, and SP1 was validated using luciferase reporter assay or RNA pull-down assay. The binding of transcription factor SP1 with vascular endothelial cell growth factor A (VEGFA) promoter was inspected using chromatin immunoprecipitation (ChIP). circSCAF11 expression was found to be significantly upregulated in the glioma tissue specimens and cell lines. The ectopic overexpression of circSCAF11 was closely correlated with the poor clinical outcome of glioma patients. Functionally, knockdown of circSCAF11 inhibited the proliferation, invasion, and tumor growth and induced the G0/G1 phase arrest. Mechanically, circSCAF11 positively regulated the SP1 expression through sponging miR-421. Moreover, transcription factor SP1 activated the transcription of VEGFA, constructing the circSCAF11/miR-421/SP1/VEGFA axis in the glioma genesis. The findings in this research illustrate that circSCAF11 accelerates glioma tumorigenesis through the miR-421/SP1/VEGFA axis, providing a potential target for circRNA and glioma treatment<sup>1)</sup>.

## 1)

Meng Q, Li S, Liu Y, Zhang S, Jin J, Zhang Y, Guo C, Liu B, Sun Y. Circular RNA circSCAF11 Accelerates the Glioma Tumorigenesis through the miR-421/SP1/VEGFA Axis. Mol Ther Nucleic Acids. 2019 Jul 5;17:669-677. doi: 10.1016/j.omtn.2019.06.022. [Epub ahead of print] PubMed PMID: 31400609.

From: https://neurosurgerywiki.com/wiki/ - **Neurosurgery Wiki** 

Permanent link: https://neurosurgerywiki.com/wiki/doku.php?id=circscaf11

Last update: 2024/06/07 02:55

