

GPR65

G protein coupled receptors 65 (GPR65), identified as an acid-sensing receptor, is overexpressed in several malignancies and promote tumor development. Our aim was to investigate the expression and prognostic value of GPR65 in glioblastoma.

MATERIALS AND METHODS: We determined the expression of GPR65 protein using immunohistochemistry in tissue microarrays containing 11 Grade I, 107 Grade II, 47 Grade III, and 102 Grade IV gliomas and 16 normal brains. Then we evaluated its association with pathological grades, prognosis, and recurrence. The Cancer Genome Atlas (TCGA) group (N=528) was further employed to examine transcriptional level of GPR65 in glioblastoma and the correlation between GPR65 expression and clinical outcome.

RESULTS: In our cohort, GPR65 expression was positively related to glioma pathological grade ($p<0.01$) and elevated in glioblastoma ($p<0.01$). High expression of GPR65 was associated with significantly short overall survival (OS) ($p=0.013$) and progression-free survival (PFS) ($p=0.029$), and could be identified as an independent risk factor for OS of glioblastoma patients (Hazard Ratio [HR]=1.596, $p=0.037$). As an aiding evidence, increased GPR65 mRNA expression was also found in TCGA glioblastoma group ($p<0.001$) and its high level predicted a poor clinical outcome (OS, $p=0.003$; PFS, $p=0.001$).

CONCLUSION: Our findings suggest that GPR65 is overexpressed in glioblastoma and its high expression predicts unfavorable clinical outcome for patients. Targeting GPR65 may serve as a potential therapy for treating glioblastoma ¹⁾.

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Wang HX, Chen YH, Zhou JX, Hu XY, Tan C, Yan Y, Huang QL, Shen JY, Xu HC, Li F, Gong ZY, Xu T, Chen JX. Overexpression of G-protein-coupled receptors 65 in glioblastoma predicts poor patient prognosis. Clin Neurol Neurosurg. 2017 Nov 29;164:132-137. doi: 10.1016/j.clineuro.2017.11.017. [Epub ahead of print] PubMed PMID: 29223793.

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