

# SGSM1

Small G Protein Signaling Modulator 1 (SGSM1) interacts with numerous [Rab](#) family members, functioning as a Rab effector for some, and as a [GTPase](#) activator for others. Promotes [GTP](#) hydrolysis by RAB34 and RAB36. Probably functions as a GTPase effector with RAB9A and RAB9B; does not stimulate GTP hydrolysis with RAB9A and RAB9B.

It has hardly been studied in [gliomas](#). Therefore, Li et al. aimed to investigate the prognostic role of SGSM1 and its relationship with [immune infiltration](#) in LGGs.

They obtained [RNA sequencing](#) data from [The Cancer Genome Atlas](#) (TCGA) to analyze SGSM1 expression. Functional enrichment analyses, immune infiltration analyses, immune checkpoint analyses, and clinicopathology analyses were performed. Univariate and multivariate Cox regression analyses were used to identify independent prognostic factors. And nomogram model has been developed. Kaplan-Meier survival analysis and log-rank test were used to estimate the relationship between OS and SGSM1 expression. The survival analyses and Cox regression were validated in datasets from the Chinese Glioma Genome Atlas (CGGA).

SGSM1 was significantly down-regulated in LGGs. Functional enrichment analyses revealed that SGSM1 was correlated with immune response. Most immune cells and immune checkpoints were negatively correlated with SGSM1 expression. The Kaplan-Meier analyses showed that low SGSM1 expression was associated with a poor outcome in LGG and its subtypes. The Cox regression showed SGSM1 was an independent prognostic factor in patients with LGG (HR = 0.494, 95%CI = 0.311-0.784, P = 0.003).

SGSM1 was considered to be a new [prognostic biomarker](#) for patients with LGG. And the study provided a potential therapeutic target for LGG treatment <sup>1)</sup>.

<sup>1)</sup>

Li J, Wang J, Ding Y, Zhao J, Wang W. Prognostic biomarker SGSM1 and its correlation with immune infiltration in gliomas. BMC Cancer. 2022 Apr 28;22(1):466. doi: 10.1186/s12885-022-09548-7. PMID: 35484511.

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