The cell culture wound-closure and the transwell migration and invasion assays are widely used in the scientific community.

These tests can provide the necessary data that may allow for an understanding of how well a particular cell type can spontaneously migrate or respond to a chemo-attractant and directionally migrate toward it. Several migratory phenotypes have been described. Cells may migrate in a single cell form such as seen in mesenchymal or amoeboid-like movement or by multicellular movement labeled collective migration or cell streaming

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Jagged1 is the ligands of the Notch signaling and has been shown to promote glioma stem cells in glioblastoma.

Survival data from R2 genomics analysis, the Cancer Genome Atlas (TCGA), the Chinese Glioma Genome Atlas (CGGA) and visualization platform database were used to evaluate the effects of Jagged1 on overall patient survival. Hai et al., investigated Jagged1 induced the glioma stem cells invasion by matrix degradation assays and Transwell cell invasion assays in vitro, then they further explored the underlying molecular mechanisms using Co-immunoprecipitation (co-IP) analysis.

High expression of Jagged1 in human glioma was associated with poor survival. Clinical data analysis showed that the Jagged1 was positively correlated with NF-κB(p65). Jagged1-induced invasion of glioma stem cells through activation of NF-κB(p65) pathway. In vivo, knockdown of Jagged1 could suppress the tumorigenicity of GICs cells through NF-κB(p65) signaling.

Insights gained from these findings suggest that Jagged1 plays an important oncogenic role in GICs malignancy by activation of NF-κB(p65) signaling, and Jagged1 could be employed as an effective therapeutic target for GICs [1)].

1)
Hai L, Liu P, Yu S, Yi L, Tao Z, Zhang C, Abeysekera IR, Li T, Tong L, Ma H, Liu B, Xie Y, Zhou X, Lin Y, Zhu M, Zhang K, Ren B, Ming H, Huang Y, Yang X. Jagged1 is Clinically Prognostic and Promotes Invasion of Glioma-Initiating Cells by Activating NF-κB(p65) Signaling. Cell Physiol Biochem. 2018 Dec 21;51(6):2925-2937. doi: 10.1159/000496044. [Epub ahead of print] PubMed PMID: 30580328.

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