Glypican-1 (GPC1) binds SLIT2

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics, 18*, 142. ↗

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Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res, 46*, D649-D655. ↗

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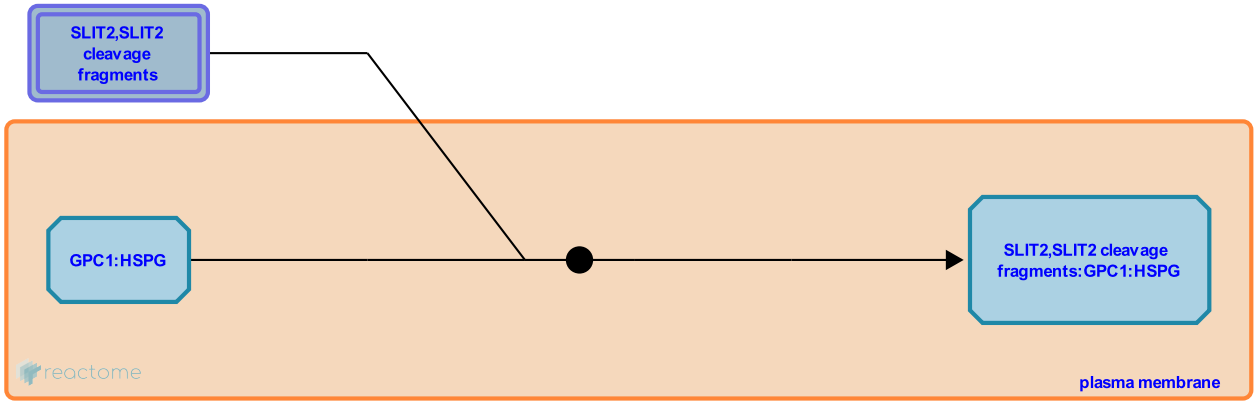
Stable identifier: R-HSA-428518

Type: binding

Compartments: plasma membrane



SLIT2 and both its natural cleavage products bind glypican-1 (GPC1), a glycosyl phosphatidyl inositol (GPI) anchored heparan sulfate proteoglycan (HSPG), through its C-terminus. Besides glypican-1, other HSPG may also be involved in SLIT2 binding. GPC1:HSPG is important for high affinity binding of SLIT to its receptor and for the repulsive activity of SLIT. SLIT-ROBO signaling strictly requires binding to heparan sulfate. HSPGs may also modulate the extracellular distribution or stability of SLIT proteins (Ronca et al. 2001, Zhang et al. 2004).

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Editions

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