Active FLT3:GRB2 binds SOS1

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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. ↗

Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics, 33*, 3461-3467. ↗

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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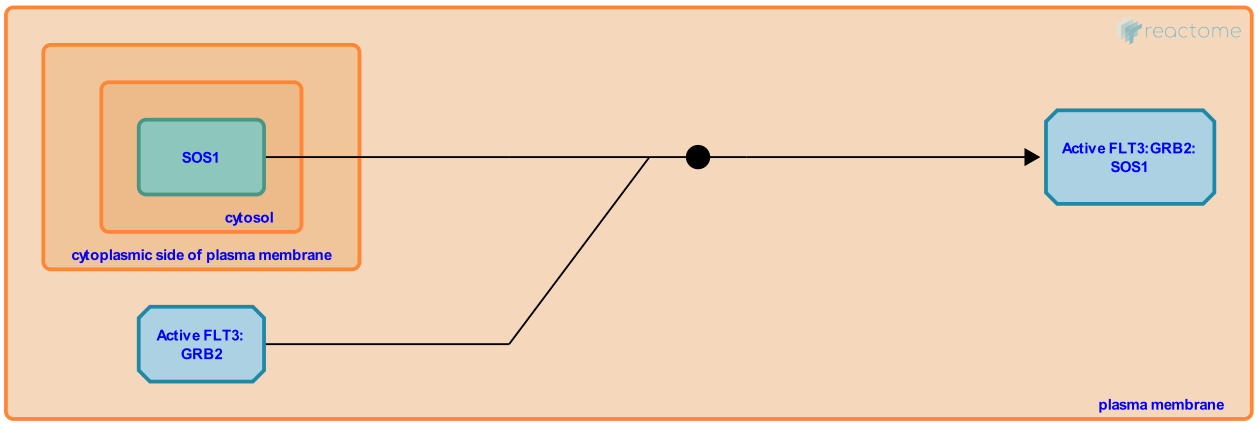
Stable identifier: R-HSA-9607301

Type: binding

Compartments: cytosol, plasma membrane



Feline McDonough Sarcoma-like tyrosine kinase (FLT3) is a member of the class III tyrosine kinase receptor family. Ligand binding induces conformational changes in the FLT3 receptor, which facilitates its dimerization and autophosphorylation. Once fully active, FLT3 receptors can associate with growth factor receptor-bound protein 2 (GRB2), which then recruits Son of sevenless homolog 1 (SOS1). Consequently, this triggers the activation of the ERK signaling cascade (Li et al. 1993).

Literature references

Yajnik, V., Skolnik, E., Batzer, A., Daly, R., Li, N., Schlessinger, J. et al. (1993). Guanine-nucleotide-releasing factor hSos1 binds to Grb2 and links receptor tyrosine kinases to Ras signalling. *Nature, 363*, 85-8. ↗

Editions

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