EPHB binds p120-RasGAP

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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

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

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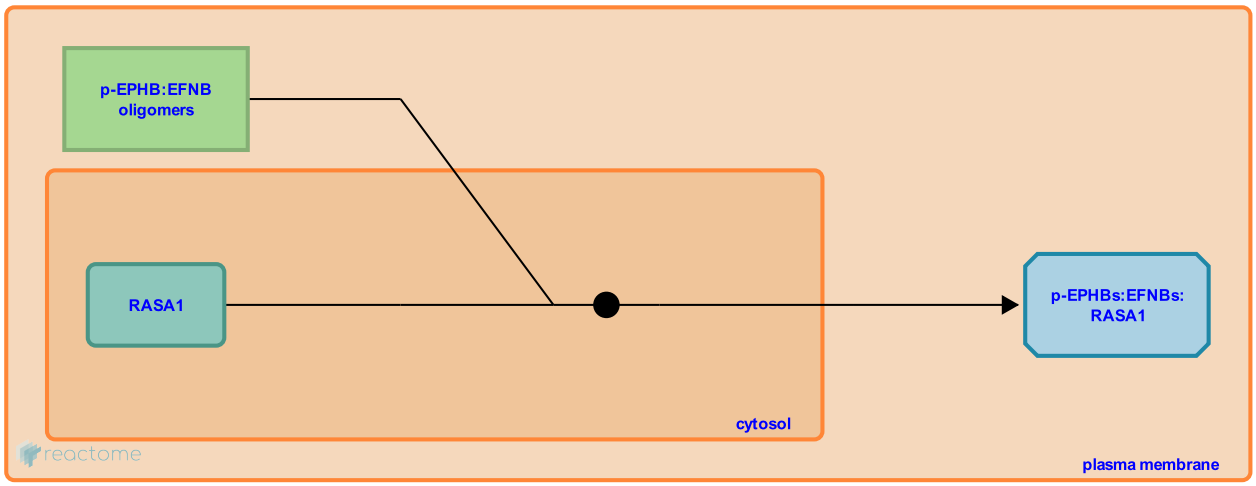
EPHB binds p120-RasGAP ↗

Stable identifier: R-HSA-4093330

Type: binding

Compartments: cytosol, plasma membrane

Inferred from: Ephb2 binds p120-RasGAP (Mus musculus)



In addition to regulating Rho family proteins, the EPH receptors and ephrins (EFNs) also regulate the activity of Ras family proteins. Ras-MAPK pathway is a key regulator of cell proliferation, adhesion and transformation, but can also influence axon guidance (Forcet et al. 2002). EPHB receptors downregulate H-Ras and consequently its downstream effector extracellular signal-regulated kinase (ERK) mitogen-activated protein kinase (MAPK) pathway in neuronal cells (Elowe et al. 2001, Miao et al. 2000). EPHB2 signals through the SH2 domain protein p120-RasGAP (RASA1) to inhibit the Ras-MAPK pathway. p120-RasGAP binds directly through its SH2 domains to the autophosphorylated EPHB2 juxtamembrane region (Holland et al. 1997, Elowe et al. 2001).

Editions

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