EPHBs binds PTK2

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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. ↗

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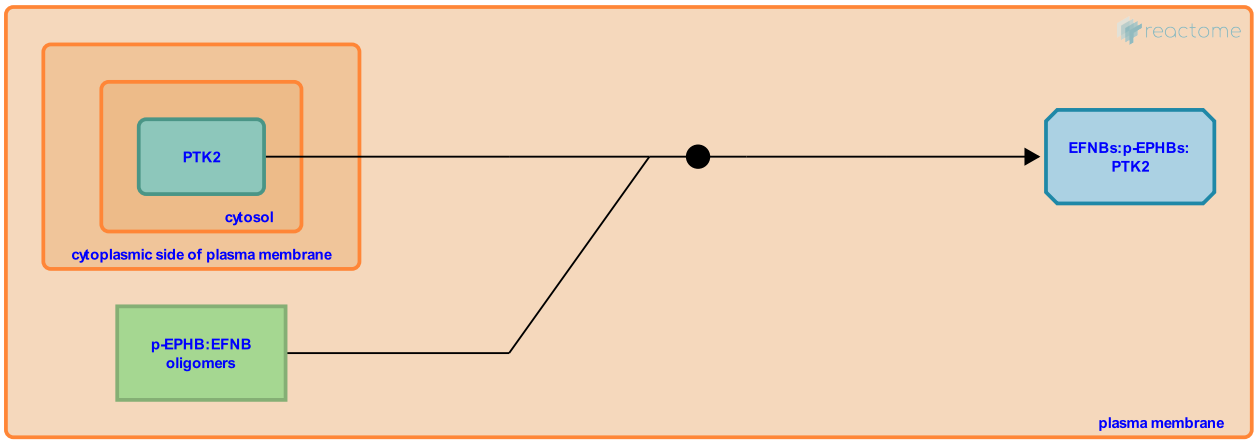
EPHBs binds PTK2 ↗

Stable identifier: R-HSA-3928588

Type: binding

Compartments: plasma membrane, cytosol

Inferred from: EphBs binds Ptk2 (Mus musculus)



Focal adhesion kinase 1 (PTK2, FAK, FAK1) acts downstream of EPHB receptors in hippocampal neurons and the EPHB2-FAK signaling contributes to the dendritic spine morphogenesis and synapse maturation by suppressing the activity of actin severing cofilin through phosphorylation. Activation of EPHBs by ephrin-B (EFNB) stimulates the binding of FAK to EPHB. Knock out of FAK in mature neurons induces a shift of mushroom shaped mature dendritic spines to long filopodia like structures, suggesting that synapse formation or maturation is affected in FAK-/- neurons (Shi et al. 2009, Moeller et al. 2006).

Editions

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