Interaction of Tie2 and Grb7

Garapati, P V., Trowsdale, J., de Bono, B.

28/04/2024

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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

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. ↗

Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968. ↗
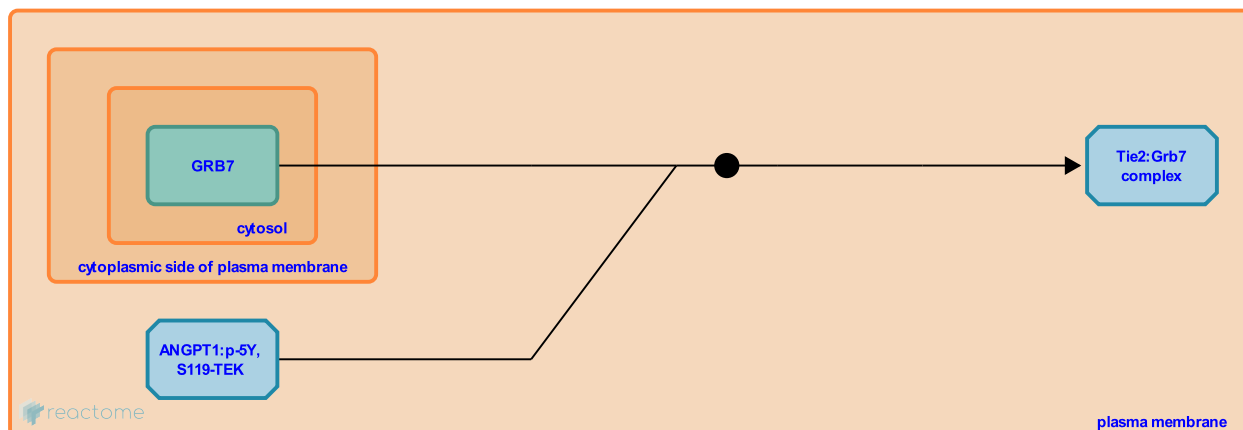
Reactome database release: 88

This document contains 1 reaction (see Table of Contents)

Interaction of Tie2 and Grb7 ↗

Stable identifier: R-HSA-204773

Type: binding

Compartments: plasma membrane, cytosol

Grb7 was initially identified as an EGF receptor binding protein and thereafter many binding partners have been reported. Grb7 interacts with Tie2/Tek in a phosphotyrosine-dependent manner through its SH2 domain.

Literature references

Alitalo, K., Daly, R., Bouchard, D., Jones, J., Master, Z., Sasaki, H. et al. (1999). Identification of Tek/Tie2 binding partners. Binding to a multifunctional docking site mediates cell survival and migration. *J Biol Chem, 274*, 30896-905. ↗

Han, DC., Guan, JL., Shen, TL. (2001). The Grb7 family proteins: structure, interactions with other signaling molecules and potential cellular functions. *Oncogene, 20*, 6315-21. ↗

Editions

2008-03-05	Authored	de Bono, B., Garapati, P V.
2009-02-13	Reviewed	Trowsdale, J.
2009-03-16	Edited	Garapati, P V.