CSF3 dimer:2xK48polyUb-K655,p-4Y-CSF3R:LYN:p-Y-JAK1:p-JAK2:p-Y-SYK:p-HCK:p-TYK2 translocates from the endocytic vesicle membrane to the lysosomal membrane

May, B., Touw, IP.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

05/05/2024

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. ↗

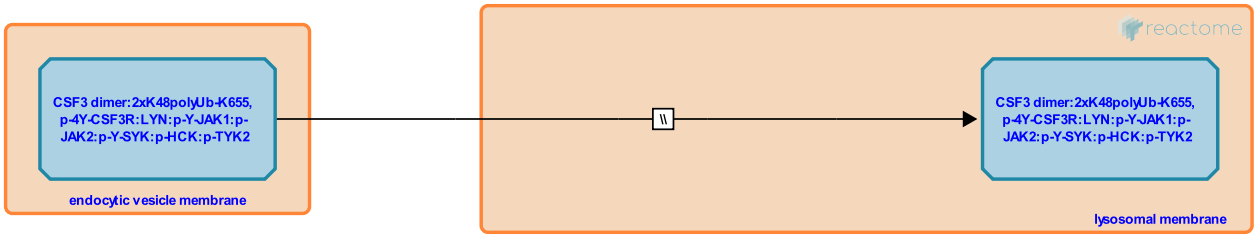
Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968. ↗

CSF3 dimer:2xK48polyUb-K655,p-4Y-CSF3R:LYN:p-Y-JAK1:p-JAK2:p-Y-SYK:p-HCK:p-TYK2 translocates from the endocytic vesicle membrane to the lysosomal membrane ↗

Stable identifier: R-HSA-9707977

Type: omitted

Compartments: endocytic vesicle membrane, lysosomal membrane



Polyubiquitinated CSF3R, believed to be in a complex with with CSF3 and other signaling molecules, transits from endosomes to lysosomes (Aarts et al. 2004, Irandoust et al. 2007, Wölfler et al. 2009).

Literature references

Roovers, O., Aarts, LH., Ward, AC., Touw, IP. (2004). Receptor activation and 2 distinct COOH-terminal motifs control G-CSF receptor distribution and internalization kinetics. *Blood, 103*, 571-9. ↗

Irandoust, M., Roovers, O., Meenhuis, A., Gits, J., Touw, IP., Wölfler, A. (2009). Site-specific ubiquitination determines lysosomal sorting and signal attenuation of the granulocyte colony-stimulating factor receptor. *Traffic, 10*, 1168-79. ↗

Irandoust, MI., Roovers, O., Aarts, LH., Gits, J., Erkeland, SJ., Touw, IP. (2007). Suppressor of cytokine signaling 3 controls lysosomal routing of G-CSF receptor. *EMBO J, 26*, 1782-93. ↗

Editions

2020-11-09	Authored, Edited	May, B.
2020-12-12	Reviewed	Touw, IP.