Uchl5 deubiquitinates TGFBR1

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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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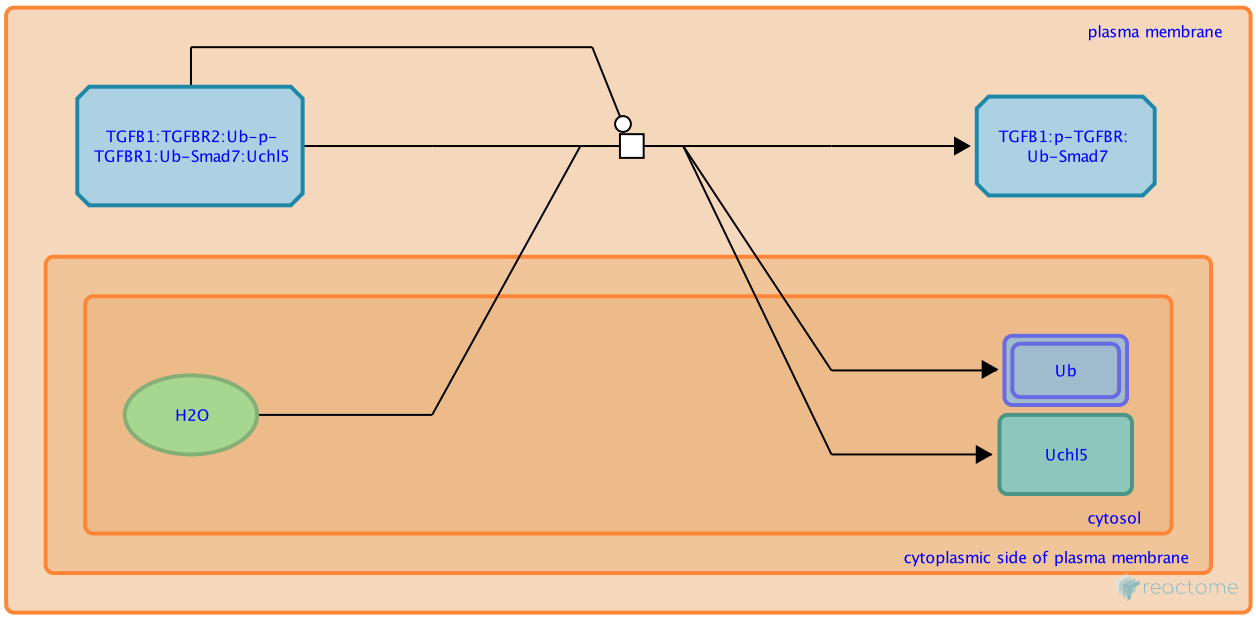
Stable identifier: R-NUL-2179313

Type: transition

Compartments: plasma membrane, cytosol, extracellular region



Recombinant mouse Uchl5 (Uch37) exogenously expressed in HEK293 cells deubiquitinates recombinant human TGFBR1. This stabilizes TGFBR1 and prolongs signaling by TGF-beta receptor complex. Deubiqutination of Smad7 has not been examined in this context (Wicks et al. 2005).

Literature references

Wicks, SJ., Haros, K., Maillard, M., Song, L., Cohen, RE., Dijke, PT. et al. (2005). The deubiquitinating enzyme UCH37 interacts with Smads and regulates TGF-beta signalling. *Oncogene, 24*, 8080-4. ↗

Editions

2012-04-05	Authored	Orlic-Milacic, M.
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