

EHD proteins interact with Rabenosyn-5

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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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Reactome database release: 88

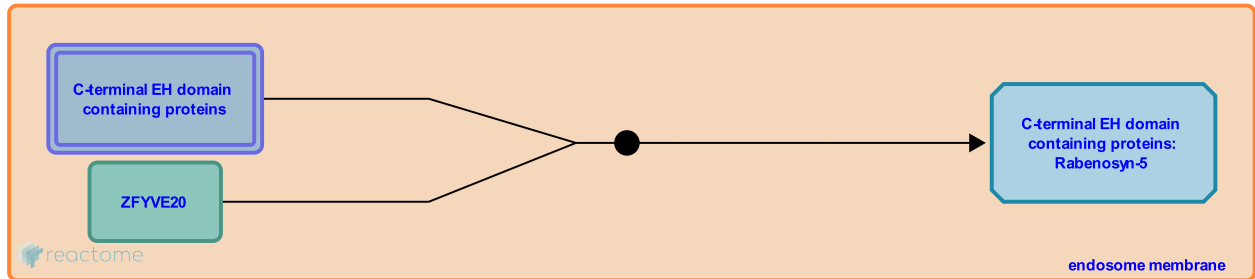
This document contains 1 reaction ([see Table of Contents](#))

EHD proteins interact with Rabenosyn-5 [↗](#)

Stable identifier: R-HSA-1011576

Type: binding

Compartments: endosome membrane



The four human EH domain-containing proteins (EHD1-4) are a distinct highly-homologous subfamily of the Eps15-homology (EH) domain family. They are distinct from most other EH family members in having the EH-domain at the C-terminus (Naslavsky & Caplan 2005). EH domains interact with other proteins; peptides containing Asp-Pro-Phe (NPF) motifs are major targets for EH-domain binding (Salcini et al. 1997). EH domain family proteins have regulatory roles in endocytic membrane transport events (Naslavsky & Caplan 2005); the EHD subfamily is believed to regulate endocytic recycling (George et al. 2007). All four human EHD proteins can rescue the vacuolated intestinal phenotype observed when the *C. elegans* orthologue *rme-1* is mutated (George et al. 2007). Over 20 interaction partners have been reported for the C-terminal EHD proteins including clathrin, syndaptins and Arp2/3 (see Naslavsky & Caplan 2005). EHD1-3 all interact with Rabenosyn-5 (Rab5), a Rab5 effector (Naslavsky et al. 2004).

Literature references

Caplan, S., Naslavsky, N., Backlund PS, Jr., Boehm, M. (2004). Rabenosyn-5 and EHD1 interact and sequentially regulate protein recycling to the plasma membrane. *Mol Biol Cell*, 15, 2410-22. [↗](#)

Editions

2010-10-29	Reviewed	Akkerman, JW.
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