HHIP binds Hedgehog

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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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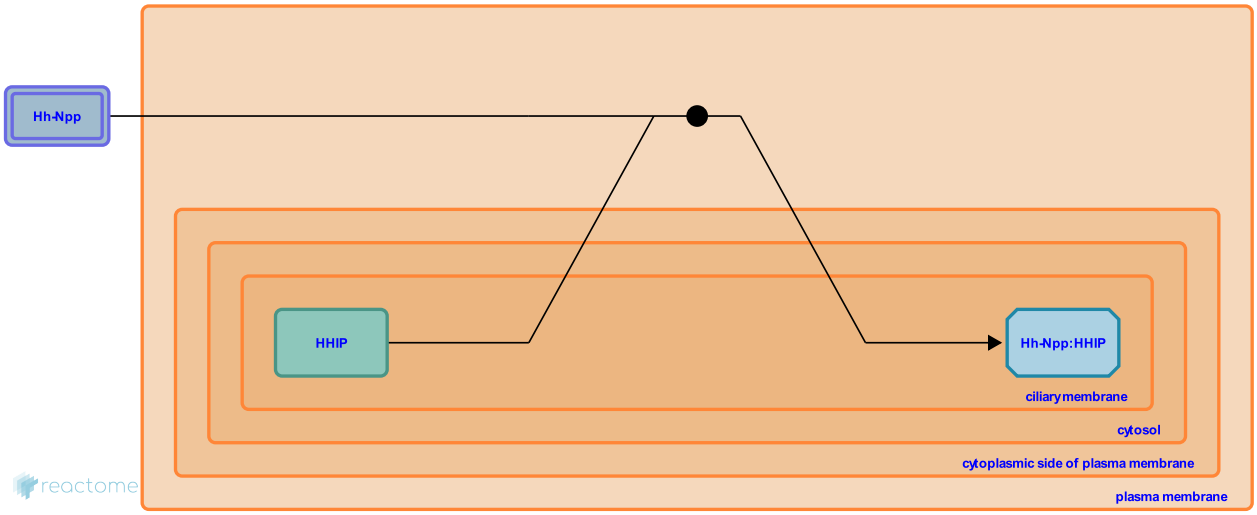
Stable identifier: R-HSA-445448

Type: binding

Compartments: extracellular region, plasma membrane



HHIP is a Hh-binding transmembrane protein that antagonizes Hh signaling by sequestering the ligand away from PTCH. HHIP is also a downstream target gene of Hh signaling, establishing a negative feedback loop that limits the extent of signaling (Chuang et al, 1999; Chuang et al, 2003; Bosanac et al, 2009; Bishop et al, 2009: Holtz et al, 2013). HHIP binds to all three Hh ligands, and also exists in a secreted form, which also sequesters ligand (Chuang et al, 1999; Coulombe et al, 2004). HHIP expression is altered in some cancers that show upregulated Hh signaling (Olsen et al, 2004; Tada et al, 2008; Tojo et al, 2002).

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Editions

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