

IQGAP1 binds CDH1:CTTNB1:CTTNA1 and MEN1

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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: 74

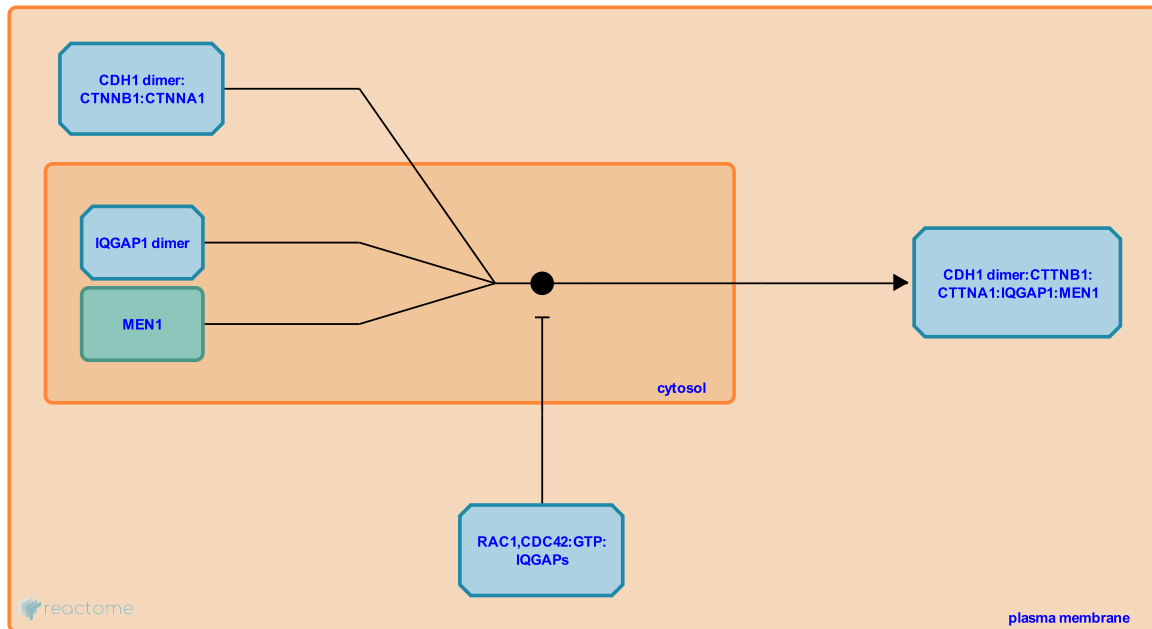
This document contains 1 reaction ([see Table of Contents](#))

IQGAP1 binds CDH1:CTTNB1:CTTNA1 and MEN1 [↗](#)

Stable identifier: R-HSA-5672304

Type: binding

Compartments: cytosol, plasma membrane



IQGAP1 binds the complex of E-cadherin (CDH1), beta-catenin (CTTNB1) and alpha-catenin (CTTNA1) at adherens junctions (Kuroda et al. 1998, Hage et al. 2009) and this interaction is corroborated by menin (MEN1) (Yan et al. 2009). It is implicated that IQGAP1 binding to CTTNB1 causes CTTNA1 to dissociate from the E-cadherin:catenin complex (Kuroda et al. 1998, Fukata et al. 1999). Binding of IQGAP1 to activated RAC1 or CDC42 competes with IQGAP1 association with the CDH1 dimer:CTTNB1:CTTNA1 complex (Kuroda et al. 1998, Fukata et al. 1999, Yan et al. 2009, Hage et al. 2009). Studies done in pancreatic cell lines found that the binding of IQGAP1 to E-cadherin:catenin complex at adherens junctions increases cell adhesion and decreases cell motility (Yan et al. 2009, Hage et al. 2009). On the contrary, studies done in mouse fibroblasts reported that IQGAP1 binding to E-cadherin:catenin complex and the concomitant displacement of CTTNA1 causes dissociation of adherens junctions (Kuroda et al. 1998, Fukata et al. 1999).

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Editions

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