Type II Activin Receptor (ActRII/ACVR2) phosphorylates Type I Activin Receptor (ActRIB/ACVR1B) in response to NODAL

May, B., Peng, C.

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

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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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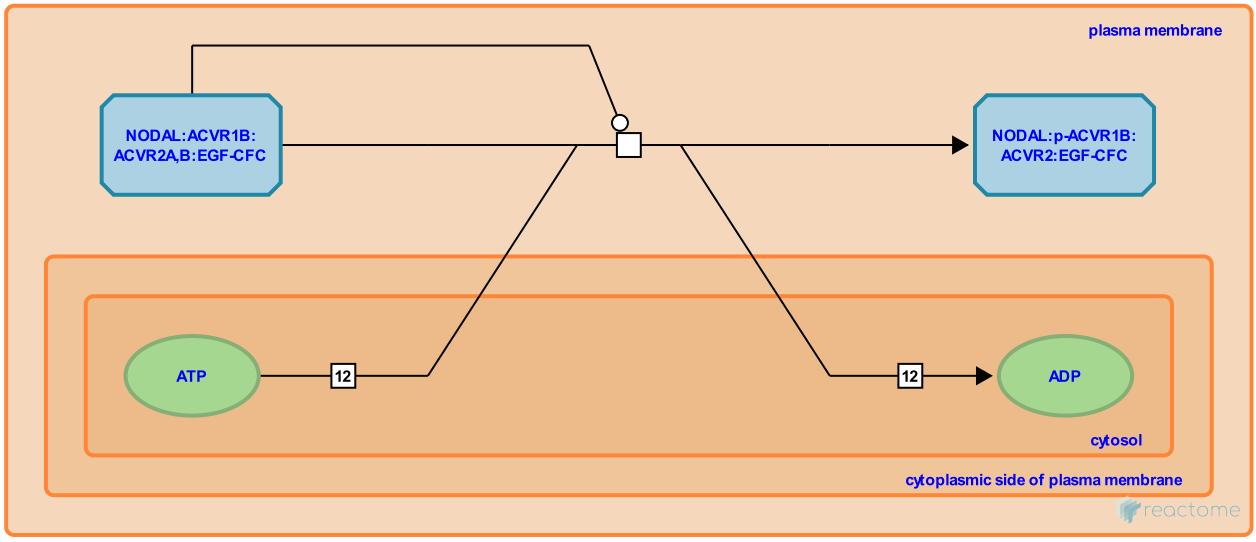
Stable identifier: R-HSA-1181156

Type: transition

Compartments: plasma membrane, cytosol

Inferred from: ACVR2A,B (ActRIIA,B) phosphorylates ACVR1B (ActRIB, ALK4) in response to Activin (Homo sapiens)



As inferred from the response of the activin receptor to activin, the type II component of the NODAL receptor phosphorylates the type I component in response to NODAL binding. Experiments with human proteins in frog oocytes show NODAL can signal via the CRIPTO:ACVR1B(ALK4):ACVR2 complex (Yeo and Whitman 2001).

Literature references

Yeo, C., Whitman, M. (2001). Nodal signals to Smads through Cripto-dependent and Cripto-independent mechanisms . *Mol Cell, 7*, 949-57. ↗

Editions

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