

ADORA2A,B bind Ade-Rib

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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

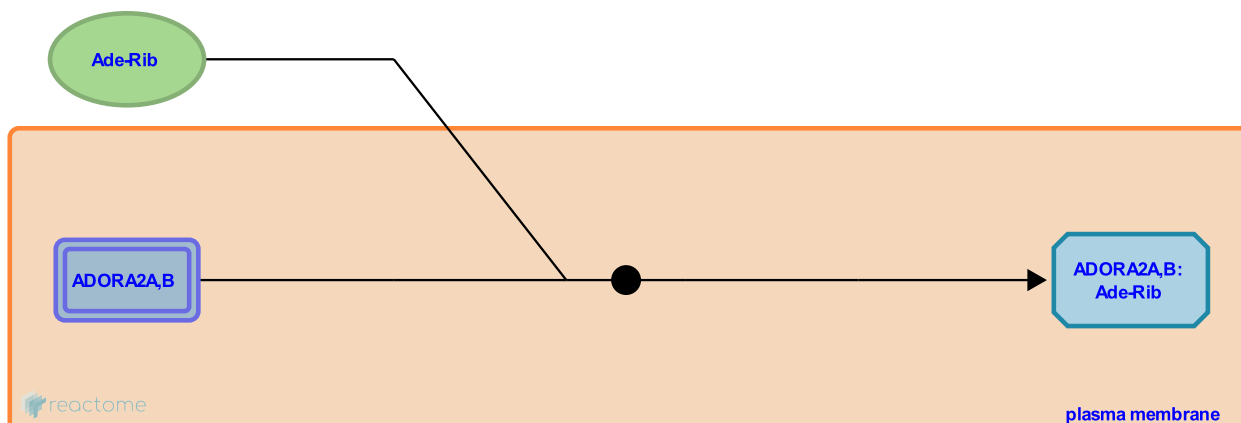
This document contains 1 reaction ([see Table of Contents](#))

ADORA2A,B bind Ade-Rib ↗

Stable identifier: R-HSA-418925

Type: binding

Compartments: extracellular region, plasma membrane



Adenosine receptors A2a and A2b (ADORA2A and ADORA2B) bind extracellular adenosine (Ado-Rib) and are believed to play a role in regulating myocardial oxygen consumption and coronary blood flow (Peterfreund 1996). The A2A receptor is responsible for regulating myocardial blood flow by vasodilation of the coronary arteries, which increases blood flow to the myocardium, but may lead to hypotension. Just as in A1 receptors, this normally serves as a protective mechanism. A2B receptor work (Pierce KD et al, 1992) has lagged behind research in the other adenosine receptors.

Both ADORA receptors mediate their actions by coupling with the G protein alpha s subunit which activates adenylyl cyclase and increases intracellular cAMP concentrations. In surfactant physiology, the receptor:adenosine complex positively regulates surfactant export from lamellar bodies. (Cooper JA et al, 1995; Linden J et al, 1999). Adenosine deaminase (CECR1, ADA2) degrades extracellular adenosine (Ade-Rib), reducing or neutralising the positive regulatory effect of adenosine in surfactant export.

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Editions

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