

# G(s):GTP activates Adenylyl cyclase

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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

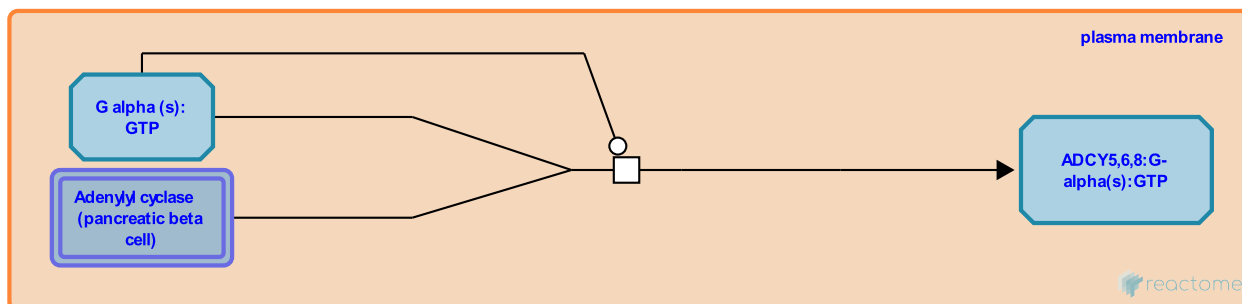
This document contains 1 reaction ([see Table of Contents](#))

## G(s):GTP activates Adenylyl cyclase [↗](#)

**Stable identifier:** R-HSA-381704

**Type:** transition

**Compartments:** plasma membrane



By analogy with adenylyl cyclases I and II, adenylyl cyclase VIII is activated by G(s) alpha:GTP by protein-protein interaction between G(s) alpha and the C2 region of adenylyl cyclase VIII, forming a complex. Adenylyl cyclase VIII is present in beta cells of rat and is activated by both G(s) alpha:GTP and calcium:calmodulin, thus integrating signals from both GLP-1 via G(s) alpha and glucose via calcium. Human beta cells contain adenylyl cyclases V and VI, which are also activated by G(s) alpha:GTP, and may contain additional adenylyl cyclases.

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### Editions

2009-05-28	Authored, Edited	May, B.
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2024-02-12	Reviewed	Hill, DP.