Decreasing cGMP concentration promotes intracellular Ca2+ release in response to WNT

Kikuchi, A., Matthews, L., Rothfels, K.
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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

Literature references


Reactome database release: 73

This document contains 1 reaction (see Table of Contents)

https://www.reactome.org
Decreasing cGMP concentration promotes intracellular Ca2+ release in response to WNT

**Stable identifier**: R-HSA-4420052

**Type**: transition

**Compartments**: endoplasmic reticulum membrane

**Inferred from**: Calcium release from intracellular stores by IP3 receptor activation (Rattus norvegicus)

IP3 promotes the release of intracellular calcium after initiation of WNT signaling. As a downstream consequence of WNT ligand binding, cytosolic cGMP levels decrease, reducing the activity of PKG and relieving its repression of the IP3 receptor. Subsequent binding of IP3 to the receptor allows efflux of the intracellular calcium from the endoplasmic reticulum (Ahumada et al, 2002; Ma and Yang, 2006; reviewed in Hoffman, 2005).

**Literature references**


**Editions**

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-08-29</td>
<td>Authored</td>
<td>Rothfels, K.</td>
</tr>
<tr>
<td>2013-10-07</td>
<td>Edited</td>
<td>Matthews, L.</td>
</tr>
<tr>
<td>2013-11-13</td>
<td>Reviewed</td>
<td>Kikuchi, A.</td>
</tr>
</tbody>
</table>