

# ABO-B:Mn<sup>2+</sup> transfers Gal to H antigen- RBC to form B antigen-RBC

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17/05/2024

## 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

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Reactome database release: 88

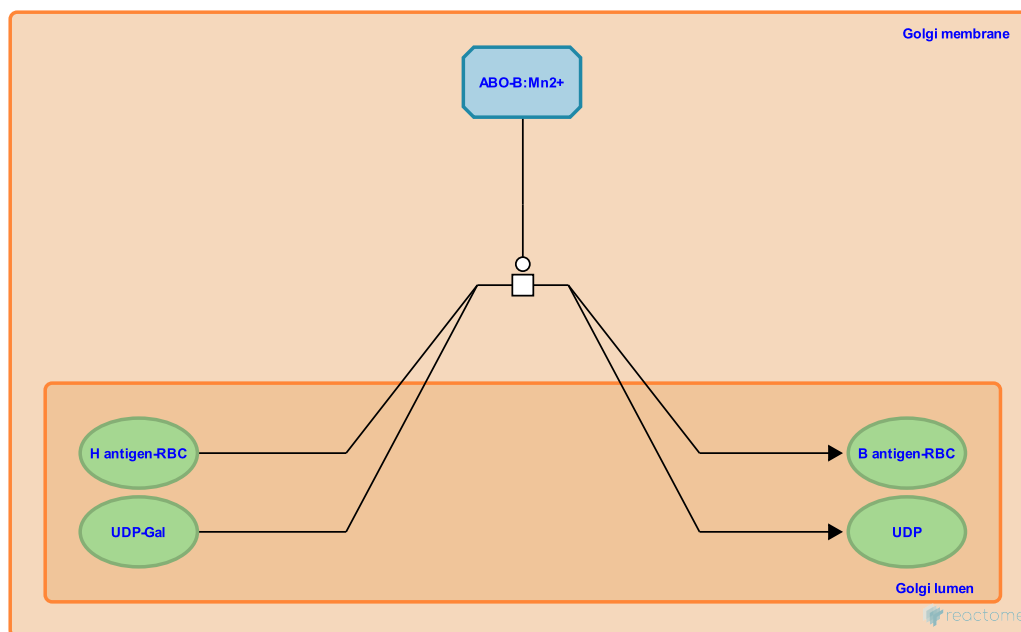
This document contains 1 reaction ([see Table of Contents](#))

## ABO-B:Mn<sup>2+</sup> transfers Gal to H antigen-RBC to form B antigen-RBC ↗

**Stable identifier:** R-HSA-9033961

**Type:** transition

**Compartments:** cytosol, Golgi membrane



The histo-blood group ABO system transferase (ABO) is the basis of the ABO blood group system. A, B and AB individuals express glycosyltransferase activity that converts the H antigen to the A antigen (by addition of GalNAc), to the B antigen (by addition of Gal) or to the AB antigen (by the addition of both GalNAc and Gal). O group individuals lack such activity. Differences in four critical amino acids (176, 235, 266 and 268) alter the specificity from an A to a B glycosyltransferase (Yamamoto et al. 1990, Yamamoto & McNeill 1996, Seto et al. 1999, Alfaro et al. 2008). The histo-blood group B transferase (ABO-B) utilises UDP-Gal to transfer galactose (Gal) to the H antigen formed via Type 2 chains to form the B antigen (Patenaude et al. 2002, Persson et al. 2007).

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### Editions

2017-12-29	Authored, Edited	Jassal, B.
2018-12-17	Reviewed	Matsui, T.