

# HOXB1 activates HOXA2 expression

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02/05/2024

## 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](#))

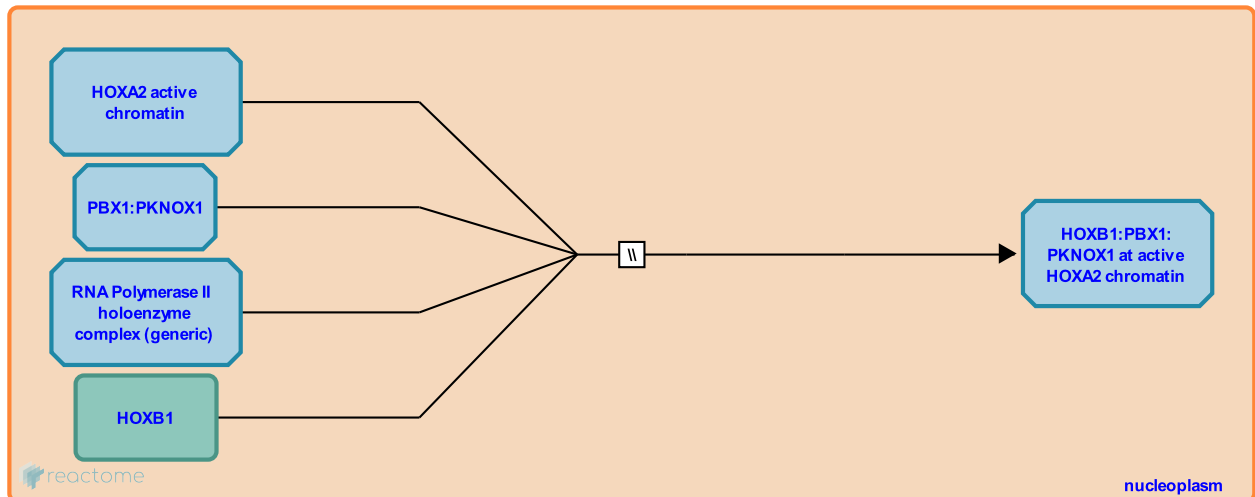
## HOXB1 activates HOXA2 expression ↗

**Stable identifier:** R-HSA-5621010

**Type:** omitted

**Compartments:** nucleoplasm

**Inferred from:** [Hoxb1 activates Hoxa2 expression \(Mus musculus\)](#)



As inferred from mouse homologs, HOXA2 expression is driven by HOXB1 in rhombomere 4 (r4) and EGR2 (KROX20) in r3 and r5. HOXB1 together with PBX and PREP/MEIS cofactors bind an element in the intron of HOXA2. (HOXA2 is the only HOX gene active in r2. An unknown activator, possibly a transcription factor of the SOX family, may be involved in expression in r2.)

### Editions

2014-08-08	Authored	May, B.
2014-08-09	Edited	May, B.
2015-05-13	Reviewed	Blasi, F.
2015-11-15	Authored	Rezsohazy, R.