

# **POU5F1 (OCT4), SOX2, NANOG, KLF4, PBX1, SMAD2 bind the NANOG promoter**

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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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Reactome database release: 76

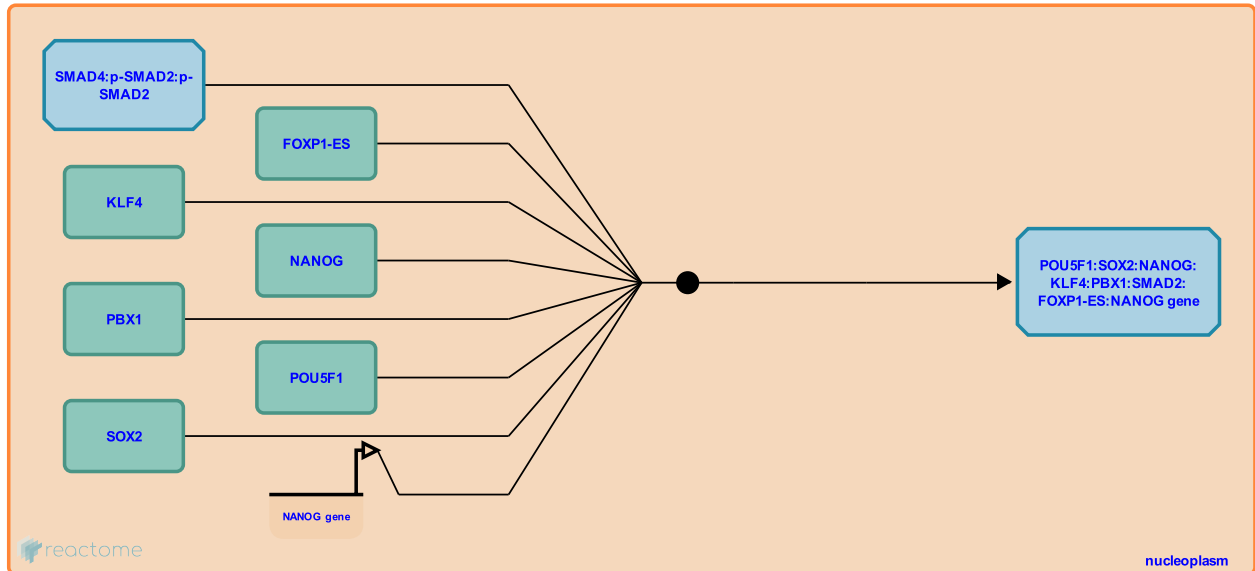
This document contains 1 reaction ([see Table of Contents](#))

## POU5F1 (OCT4), SOX2, NANOG, KLF4, PBX1, SMAD2 bind the NANOG promoter [↗](#)

**Stable identifier:** R-HSA-480204

**Type:** binding

**Compartments:** nucleoplasm



KLF4, PBX1, POU5F1 (OCT4), SOX2, and NANOG bind the promoter of the NANOG gene and enhance expression of NANOG (Rodda et al. 2005, Boyer et al. 2005, Babaie et al. 2007, Jin et al. 2007, Chan et al. 2009, Vallier et al. 2009, Jung et al. 2011). In mouse Nanog has been shown to repress its own expression (Fidalgo et al. 2012, Navarro et al. 2012). ZIC3, a NANOG target, also positively regulates NANOG expression, possibly by binding the NANOG promoter and activating transcription (Lim et al. 2007). Activin/Nodal signaling regulates NANOG via SMAD2 and SMAD3 (Brown et al. 2011)

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### Editions

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