

SOX10, POU3F1 and POU3F2 bind EGR2

gene

Aletta, J M., Rothfels, K.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

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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

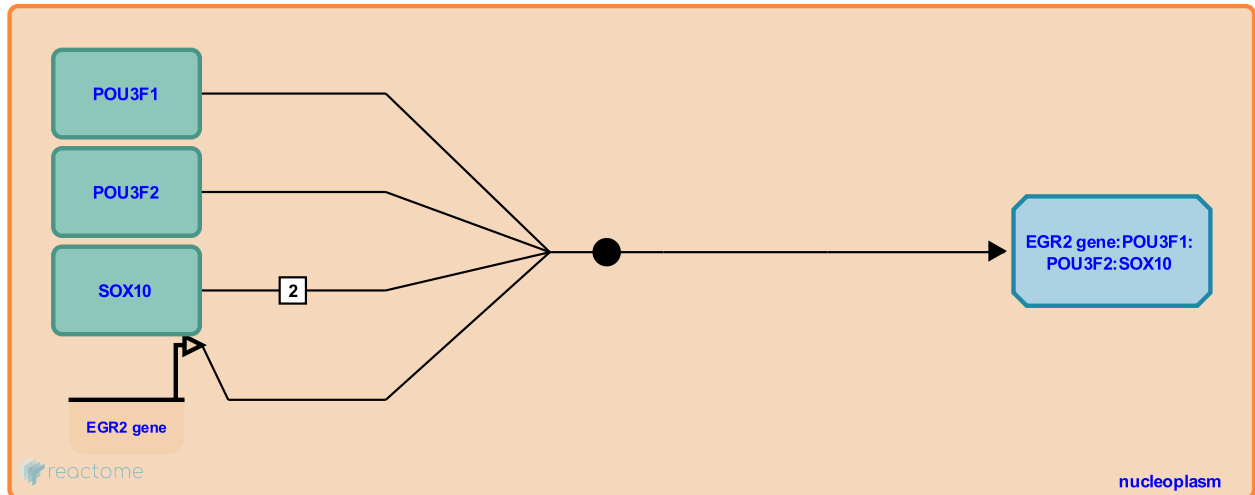
This document contains 1 reaction ([see Table of Contents](#))

SOX10, POU3F1 and POU3F2 bind EGR2 gene ↗

Stable identifier: R-HSA-9613768

Type: binding

Compartments: nucleoplasm



During the process of peripheral nerve myelination, EGR2 expression is controlled by a feedforward transcriptional program initiated by SOX10 and maintained by POU3F2, POU3F1 and EGR2 itself (reviewed in Svaren and Meijer, 2008). Expression of EGR2 during the myelination process is controlled by a myelinating Schwann cell enhancer (MSE) 35 kb downstream of the gene (Ghislain et al, 2002). The MSE is bound by SOX10, POU3F1 and POU3F2 (Ghislain and Charnay, 2006; Reiprich et al, 2010). SOX10 in turn recruits SMARCA4, HDAC1 and HDAC2 to play overlapping but non-redundant roles in activating EGR2 expression (Jacob et al, 2011; Chen et al, 2011; Weider et al, 2012).

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Editions

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