VENTX binds the CDKN2A gene

Orlic-Milacic, M., Vedi, NM.
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: 78

This document contains 1 reaction (see Table of Contents)

https://reactome.org
VENTX binds the CDKN2A gene

**Stable identifier:** R-HSA-8853920

**Type:** binding

**Compartments:** nucleoplasm

VENTX binds to the CDKN2A promoter that regulates the expression of the p16-INK4A cyclin-dependent kinase inhibitor. Binding of VENTX to an alternative CDKN2A promoter, which regulates the expression of p14-ARF, has not been examined (Wu et al. 2011). CDKN2A locus encodes tumor suppressor genes p16INK4A and p14ARF (p19ARF in mouse). p16INK4A and p14ARF are expressed from different promoters and translated in different reading frames. They use different exon 1 (exon 1-alpha in p16INK4A and exon 1-beta in p14ARF) but share exons 2 and 3. Therefore, while their mRNAs are homologous, they share no similarity at the amino acid sequence level and perform distinct functions in the cell (Quelle et al. 1995).

**Literature references**


**Editions**

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-06-28</td>
<td>Authored</td>
<td>Orlic-Milacic, M.</td>
</tr>
<tr>
<td>2019-10-18</td>
<td>Reviewed</td>
<td>Vegi, NM.</td>
</tr>
<tr>
<td>2019-11-01</td>
<td>Edited</td>
<td>Orlic-Milacic, M.</td>
</tr>
</tbody>
</table>