

TP53 binds regulatory elements of SESN1,2,3 genes

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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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Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)

Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)

Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 88

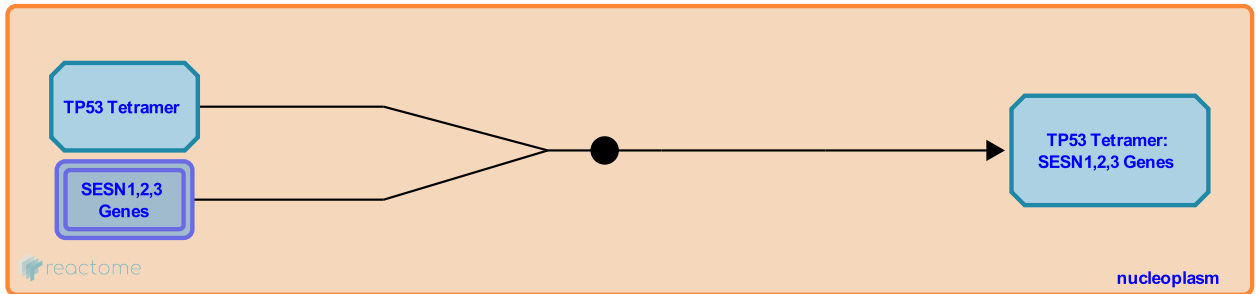
This document contains 1 reaction ([see Table of Contents](#))

TP53 binds regulatory elements of SESN1,2,3 genes ↗

Stable identifier: R-HSA-5629187

Type: binding

Compartments: nucleoplasm



TP53 (p53) binds to the p53 response element in the intron 2 of SESN1 gene and stimulates transcription of SESN1 transcripts SESN1-1 and SESN1-3, also known as PA26 T2 and PA26 T3 (Velasco-Miguel et al. 1999). Recently, TP53 binding to SESN2 gene regulatory elements has been identified by ChIPseq (Menendez et al. 2013), and SESN2 gene expression was previously shown to be responsive to TP53 (Budanov et al. 2002). Rat ortholog of SESN3 was shown to possess p53 binding sites in the promoter region, but direct binding of TP53 to regulatory elements of human SESN3 has not been examined (Brynczka et al. 2007).

Literature references

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Editions

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