

TP53 forms homotetramers

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https://reactome.org

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

- Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics*, 18, 142.
- 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 data-base: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968.

Reactome database release: 88

This document contains 1 reaction (see Table of Contents)

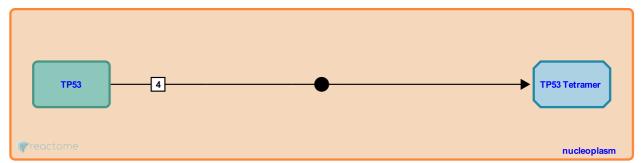
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TP53 forms homotetramers ₹

Stable identifier: R-HSA-6804762

Type: binding

Compartments: nucleoplasm



TP53 (p53) functions as a stable homotetramer. The tetramerization domain is located within the C-terminus (Stenger et al. 1994, Waterman et al. 1995, Jeffrey et al. 1995, Wang et al. 1995).

Literature references

Pavletich, NP., Jeffrey, PD., Gorina, S. (1995). Crystal structure of the tetramerization domain of the p53 tumor suppressor at 1.7 angstroms. *Science*, 267, 1498-502.

Halazonetis, TD., Shenk, JL., Waterman, JL. (1995). The dihedral symmetry of the p53 tetramerization domain mandates a conformational switch upon DNA binding. *EMBO J.*, 14, 512-9. *¬*

Mastrangelo, IA., Reed, M., Stenger, JE., Hough, PV., Wang, P., Tegtmeyer, P. et al. (1994). p53 oligomerization and DNA looping are linked with transcriptional activation. *EMBO J.*, 13, 6011-20.

Editions

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