

PLK3 phosphorylates TP53

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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. [↗](#)

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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

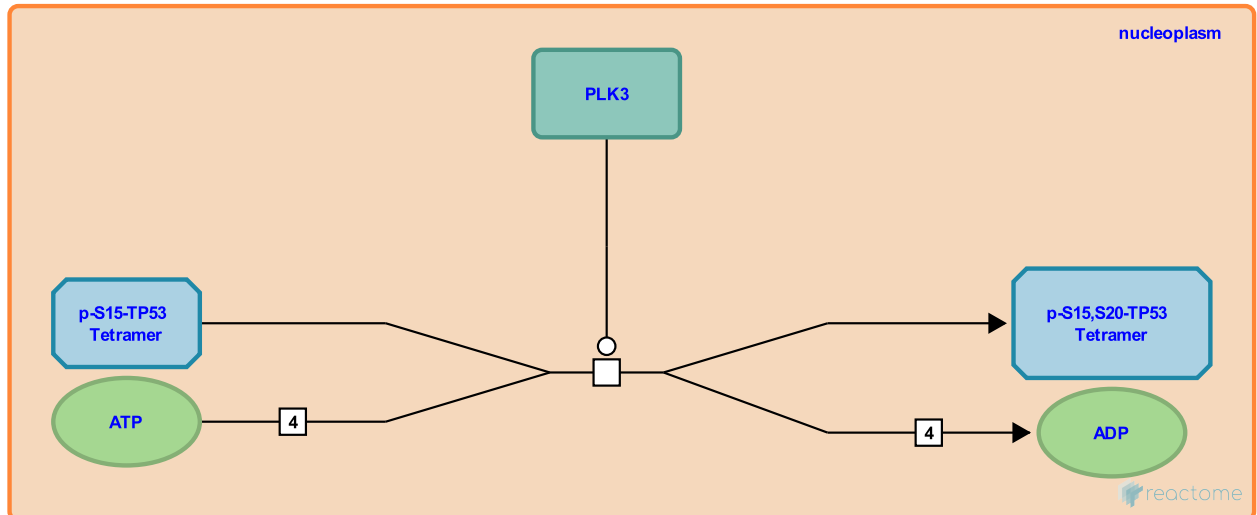
This document contains 1 reaction ([see Table of Contents](#))

PLK3 phosphorylates TP53 [↗](#)

Stable identifier: R-HSA-6805285

Type: transition

Compartments: nucleoplasm



PLK3 contributes to stabilizing phosphorylation of TP53 on serine residue S20 (Xie, Wang et al. 2001, Xie, Wu et al. 2001).

Literature references

- Husain, I., Wang, Q., Stambrook, P., Dai, W., Wu, H., Xie, S. et al. (2001). Plk3 functionally links DNA damage to cell cycle arrest and apoptosis at least in part via the p53 pathway. *J. Biol. Chem.*, 276, 43305-12. [↗](#)
- Wang, Q., Dai, W., Wu, H., Lu, L., Xie, S., Cogswell, J. et al. (2001). Reactive oxygen species-induced phosphorylation of p53 on serine 20 is mediated in part by polo-like kinase-3. *J. Biol. Chem.*, 276, 36194-9. [↗](#)

Editions

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