

TP53 and E2F4 inhibit CDC25C expression

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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: 89

This document contains 1 reaction (see Table of Contents)

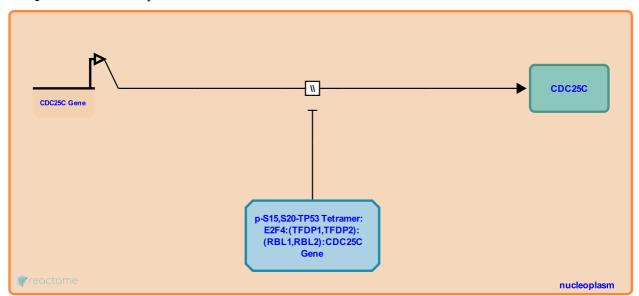
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TP53 and E2F4 inhibit CDC25C expression **对**

Stable identifier: R-HSA-6798268

Type: omitted

Compartments: nucleoplasm



Binding of TP53 and the E2F4 repressor complex to the promoter of the CDC25C gene results in the inhibition of CDC25C transcription, an important step in the maintenance of the G2 cell cycle checkpoint (St. Clair et al. 2004, Benson et al. 2014).

Literature references

Manfredi, JJ., Attie, O., Aaronson, SA., Kracikova, M., Benson, EK., Sachidanandam, R. et al. (2014). p53-dependent gene repression through p21 is mediated by recruitment of E2F4 repression complexes. *Oncogene*, 33, 3959-69.

Manfredi, JJ., St Clair, S., Mattia, M., Varmeh-Ziaie, S., Liu, WJ., Giono, L. et al. (2004). DNA damage-induced down-regulation of Cdc25C is mediated by p53 via two independent mechanisms: one involves direct binding to the cdc25C promoter. *Mol. Cell*, 16, 725-36. *¬*

Editions

2015-10-14	Authored, Edited	Orlic-Milacic, M.
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