TP53 stimulates transcription of RRM2B gene

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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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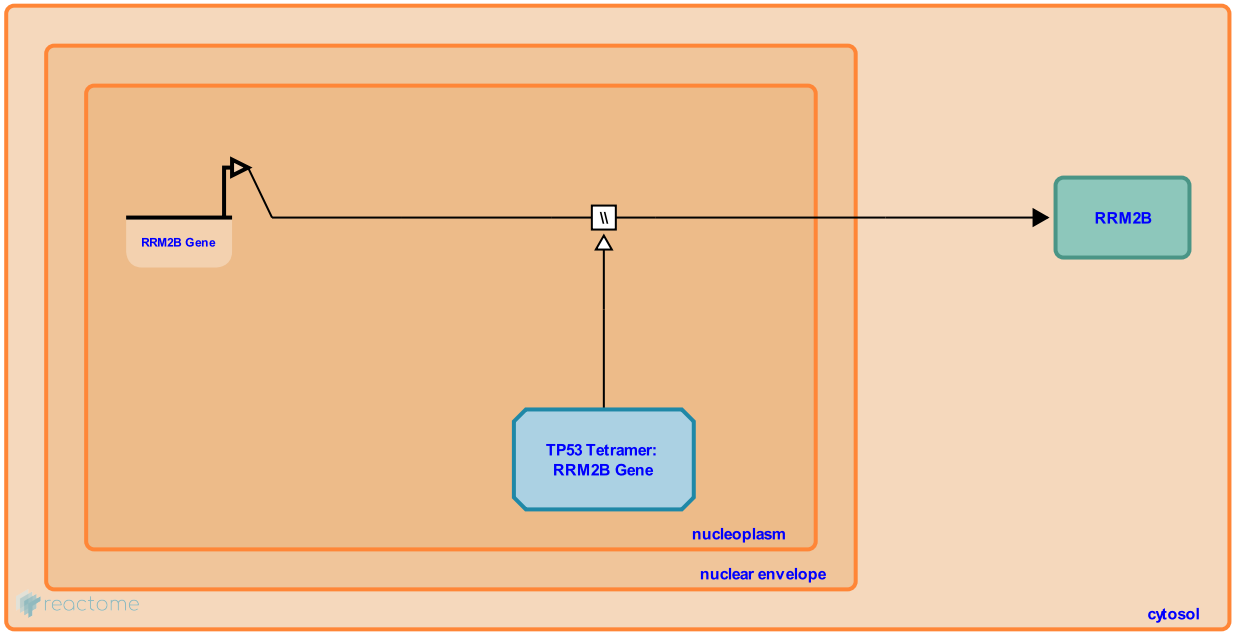
Stable identifier: R-HSA-5632892

Type: omitted

Compartments: nucleoplasm



TP53 (p53) directly stimulates transcription of RRM2B gene (p53R2), which encodes a critical subunit of the ribonucleotide reductase complex (Tanaka et al. 2000), responsible for de novo conversion of ribonucleotides (NTPs) to deoxyribonucleotides (dNTPs). This regulation provides a direct mechanism through which TP53 contributes to DNA synthesis/repair. Mutations in RRM2B gene cause severe mitochondrial DNA depletion (Bourdon et al. 2007, Kulawiec et al. 2009).

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Editions

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