AKT phosphorylates MDM2

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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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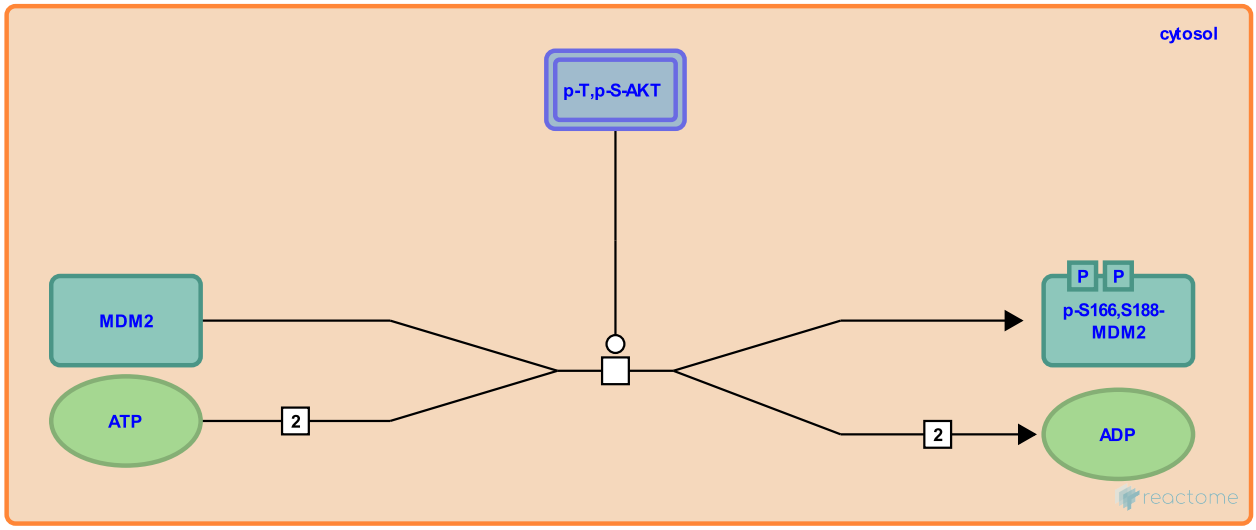
Stable identifier: R-HSA-198599

Type: transition

Compartments: cytosol



AKT phosphorylates MDM2 on two serine residues, at positions 166 and 188 (Mayo and Donner 2001, Feng et al. 2004, Milne et al. 2004). AKT-mediated phosphorylation of the E3 ubiquitin-protein ligase MDM2 promotes nuclear localization and interferes with the interaction between MDM2 and p14-ARF, thereby decreasing p53 stability. This leads to a decreased expression of p53 target genes, such as BAX, that promote apoptosis (Zhou et al. 2001, Mayo and Donner 2001).

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Editions

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