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


Reactome database release: 73

This document contains 2 pathways (see Table of Contents)

https://reactome.org
In response to DNA damage due to exposure to ultraviolet light or to ionizing radiation, Cdc25A is phosphorylated by Chk1 or Chk2. The phosphorylation of Cdc25A at ser-123, in response to DNA damage from ionizing radiation is a signal for ubiquitination and subsequent degradation of Cdc25A. The destruction of Cdc25A prevents the normal G1/S transition. Cdc25A is required for the activation of the Cyclin E:Cdk2 complexes via dephosphorylation.

Chk1 is activated in response to DNA damage due to uv light. However, the phosphorylation occurs at a different site.

**Literature references**

Ubiquitin Mediated Degradation of Phosphorylated Cdc25A

Location: p53-Independent DNA Damage Response

Stable identifier: R-HSA-69601

cdc25A protein is degraded by the ubiquitin-proteasome machinery in both terminally differentiating and cycling cells (Bernardi et al. 2000).

Literature references

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