

HSF1 acetylation at Lys80

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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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Reactome database release: 88

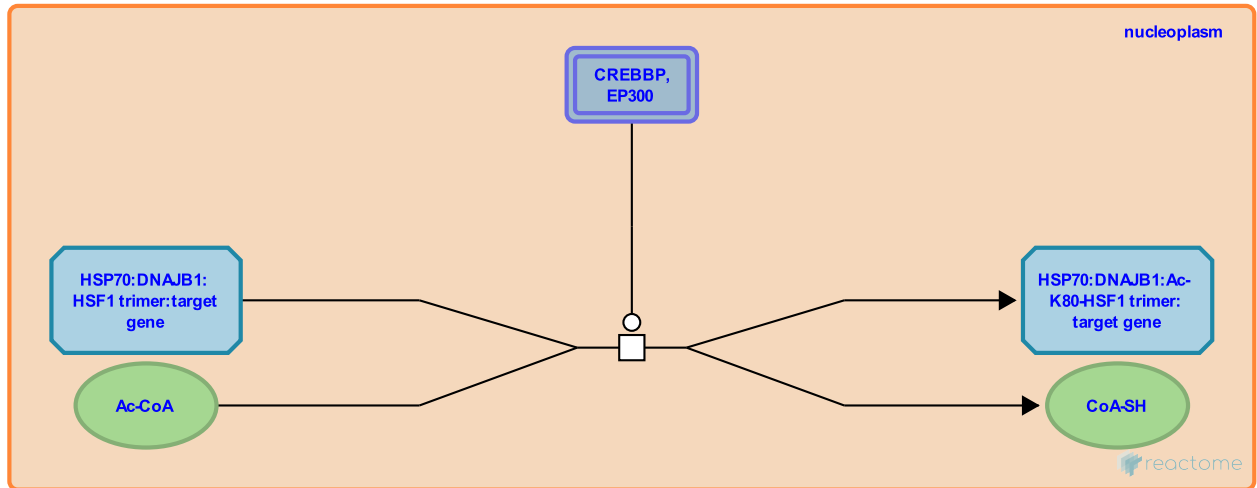
This document contains 1 reaction ([see Table of Contents](#))

HSF1 acetylation at Lys80 [↗](#)

Stable identifier: R-HSA-3371554

Type: transition

Compartments: nucleoplasm



Acetylated HSF1 was detected in lysates of human embryonic kidney 293T cells which were transfected with vectors encoding a Flag-HSF1 fusion and p300 proteins and exposed to various stress conditions (Westerheide SD et al. 2012). No acetylation was found in lysates of unstressed cells. Acetylation of HSF1 may occur on multiple lysines, such as Lys80 within the DNA binding domain. Mutation of Lys80 disrupted the DNA-binding ability of recombinant HSF1, indicating that the acetylation at Lys80 caused the regulated release of the HSF1 trimers from DNA and thus represents a regulatory step in the attenuation of the heat shock response (Westerheide SD et al. 2009; Herbomel G et al 2013).

Literature references

Sistonen, L., Morimoto, RI., Westerheide, SD., Ankar, J., Stevens, SM. (2009). Stress-inducible regulation of heat shock factor 1 by the deacetylase SIRT1. *Science*, 323, 1063-6. [↗](#)

Editions

2013-10-29	Authored	Shamovsky, V.
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