ATF4 and phospho-ATF2 bind the DDIT3 promoter

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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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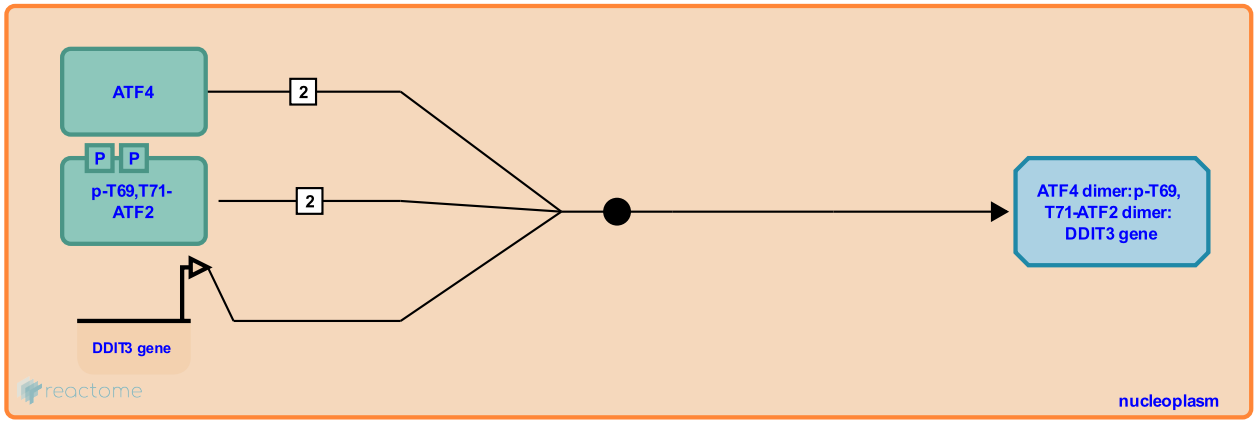
Stable identifier: R-HSA-9635804

Type: binding

Compartments: nucleoplasm



The promoter of the DDIT3 (CHOP) gene contains an Amino Acid Response Element (AARE) that binds ATF4 and ATF2. ATF2 and ATF4 are required for full activation of gene transcription in response to amino acid deprivation (Bruhat et al. 2000, Averous et al. 2004). Phospho-ATF2 is essential in the acetylation of histone H4 and H2B (Bruhat et al. 2007). ATF4 recruits PCAF to enhance transcription (Chérasse et al. 2007). ATF4 appears to be a monomer in the absence of DNA and a dimer after binding DNA (Podust et al. 2001).

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Editions

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