

Atf4 and Cebpg bind the Asns 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

Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics*, 18, 142. [↗](#)

Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)

Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)

Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 88

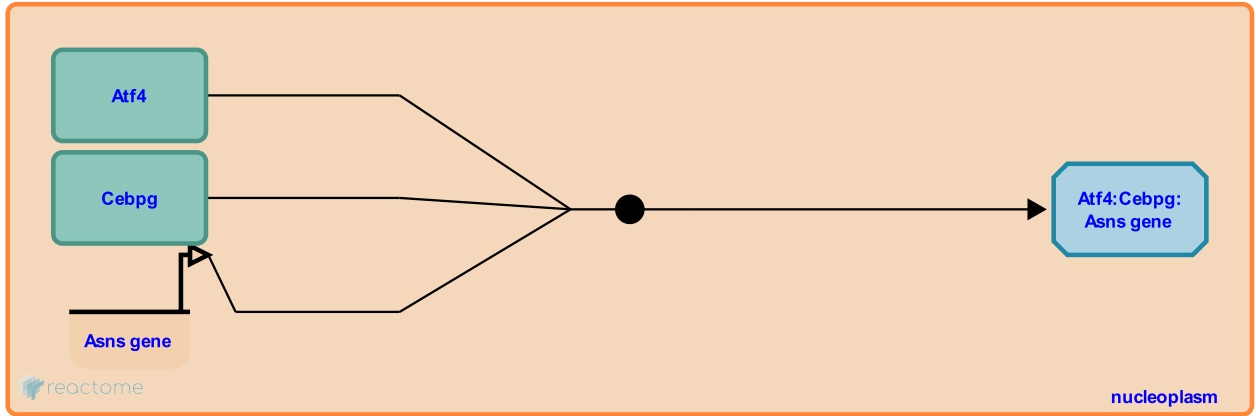
This document contains 1 reaction ([see Table of Contents](#))

Atf4 and Cebpg bind the Asns gene ↗

Stable identifier: R-MMU-9644310

Type: binding

Compartments: nucleoplasm



Atf4 and Cebpg bind a CEBP-ATF response element (CARE) in the promoter of the Asns gene (Huggins et al. 2015). Eif2ak1 acts via Atf4 to activate transcription of Asns in response to iron deficiency (Zhang et al. 2019).

Literature references

Macias-Garcia, A., Zhang, S., Butty, VL., Levine, SS., Sankaran, VG., Velazquez, J. et al. (2019). HRI coordinates translation necessary for protein homeostasis and mitochondrial function in erythropoiesis. *Elife*, 8. ↗

Haines, DC., Jailwala, P., Saylor, KL., Huggins, CJ., Quiñones, OA., Johnson, PF. et al. (2015). C/EBPγ Is a Critical Regulator of Cellular Stress Response Networks through Heterodimerization with ATF4. *Mol. Cell. Biol.*, 36, 693-713. ↗

Editions

2019-04-12	Authored, Edited	May, B.
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