

Expression of FACTOR VII (F7)

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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](#))

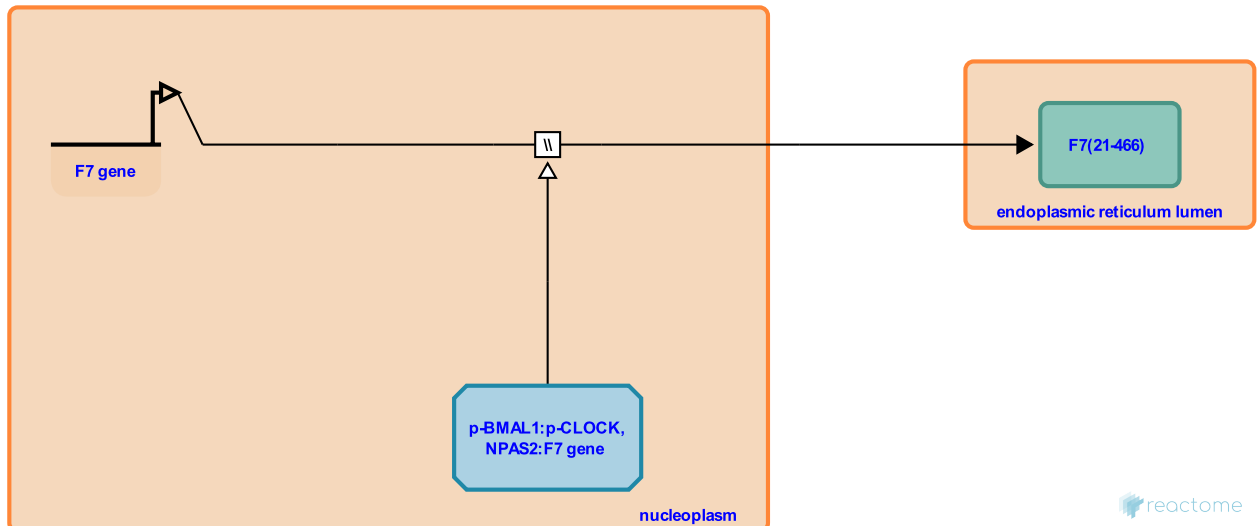
Expression of FACTOR VII (F7) ↗

Stable identifier: R-HSA-549428

Type: omitted

Compartments: nucleoplasm, endoplasmic reticulum lumen

Inferred from: [Expression of Coagulation Factor VII \(F7\) \(Mus musculus\)](#)



The FACTOR VII (F7) gene is transcribed to yield mRNA and the mRNA is translated to yield protein. In mouse the promoter of the F7 gene contains an E-box which binds the Bmal1:Clock (Arntl:Clock) heterodimer and the Bmal1:Npas2 (Arntl:Npas2) heterodimer, conferring circadian expression on Factor VII mRNA and protein. Activation of FACTOR VII expression by phosphorylated BMAL1:CLOCK (ARNTL:CLOCK) is inferred from mouse. NPAS2 is predicted to act redundantly with CLOCK.

Literature references

Chung, DW., Greenberg, D., Miao, CH., Ho, WT., Davie, EW. (1995). Liver-specific expression of the human factor VII gene. *Proc Natl Acad Sci U S A*, 92, 12347-51. ↗

Editions

2009-05-27	Reviewed	D'Eustachio, P.
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