p-BMAL1:p-CLOCK,NPAS2 binds CCRN4L (NOCTURNIN) 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. ↗

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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. ↗

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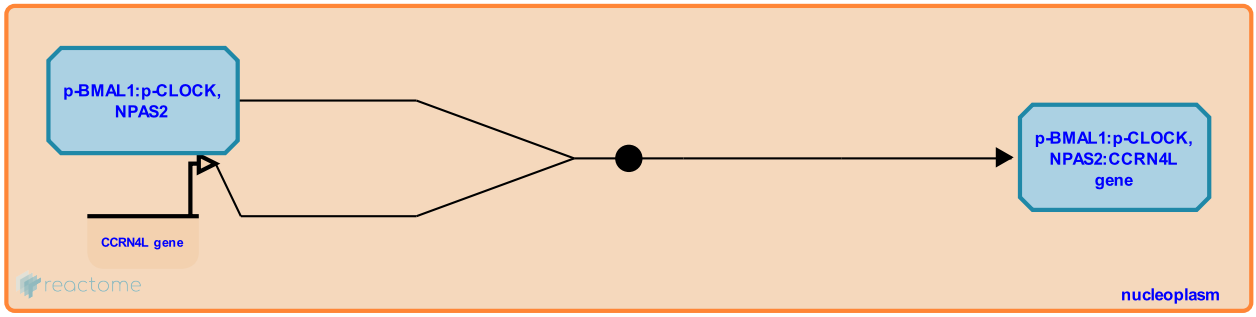
Stable identifier: R-HSA-5663138

Type: binding

Compartments: nucleoplasm



The phosphorylated BMAL1:CLOCK (ARNTL:CLOCK) heterodimer binds an E-box element in the promoter of the NOCTURNIN gene and activates transcription of NOCTURNIN. NPAS2 is predicted to act redundantly with CLOCK.

Literature references

Zhang, Y., Yue, J., Peng, X., Hao, W., Yuan, J., Li, R. et al. (2008). CLOCK/BMAL1 regulates human nocturnin transcription through binding to the E-box of nocturnin promoter. *Mol Cell Biochem, 317*, 169-77. ↗

Editions

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