Activated PPARG binds PTEN gene promoter

Carracedo, A., Kriplani, N., Leslie, N., Orlic-Milacic, M., Salmena, L.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

24/08/2024

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.
The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

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. ↗

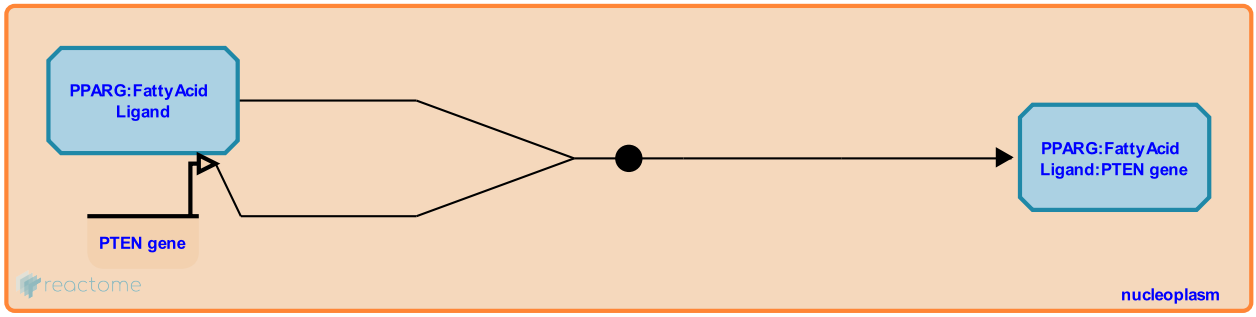
Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968. ↗

Activated PPARG binds PTEN gene promoter ↗

Stable identifier: R-HSA-8944099

Type: binding

Compartments: nucleoplasm



The nuclear receptor PPARG (PPARgamma), activated by ligand binding, binds to peroxisome proliferator response elements (PPREs) in the promoter of the PTEN gene to activate PTEN transcription. It has not been tested whether nuclear receptors that heterodimerize with PPARG are involved in transcriptional regulation of PTEN (Patel et al. 2001).

Literature references

Downes, CP., Patel, L., MacPhee, CH., Coxon, P., Pass, I., Smith, SA. (2001). Tumor suppressor and anti-inflammatory actions of PPARgamma agonists are mediated via upregulation of PTEN. *Curr. Biol., 11*, 764-8. ↗

Editions

2016-08-11	Authored	Carracedo, A., Salmena, L.
2016-09-30	Reviewed	Leslie, N., Kriplani, N.
2016-11-02	Authored	Orlic-Milacic, M.
2017-05-09	Edited	Orlic-Milacic, M.