PGJ3 isomerises to δ12-PGJ3

Hansen, TV., Jassal, B.

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

22/04/2024

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. ↗

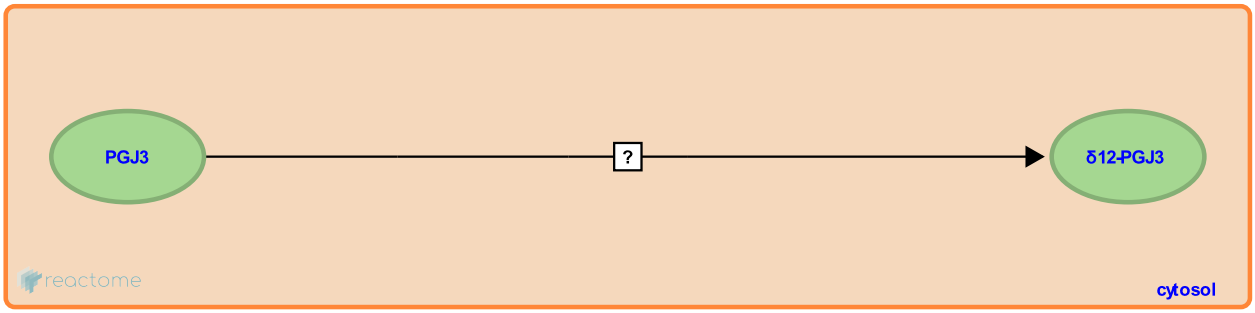
Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968. ↗

PGJ3 isomerises to δ12-PGJ3 ↗

Stable identifier: R-HSA-9028263

Type: uncertain

Compartments: cytosol



It is proposed that prostaglandin J3 (PGJ3) isomerises to prostaglandin δ12-PGJ3 (δ12-PGJ3) (Fitzpatrick et al. 1983, Shibata et al. 2002). EPA supplementation to mice resulted in enhanced endogenous production of δ12-PGJ3, which was found to possess chemoprotective activity against myeloid leukemia, ablating leukemia stem cells in mice (Hedge et al. 2011, Finch et al. 2015).

Literature references

Wynalda, MA., Fitzpatrick, FA. (1983). Albumin-catalyzed metabolism of prostaglandin D2. Identification of products formed in vitro. *J. Biol. Chem., 258*, 11713-8. ↗

Editions

2017-11-07	Authored, Edited	Jassal, B.
2018-02-21	Reviewed	Hansen, TV.