GIP receptor binds gastric inhibitory peptide

D'Eustachio, P., Jassal, B.

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

The contents of this document may be freely copied and distributed in any media, provided the authors, plus the institutions, are credited, as stated under the terms of Creative Commons Attribution 4.0 International (CC BY 4.0) License. For more information see our license.

26/10/2020

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. ↗

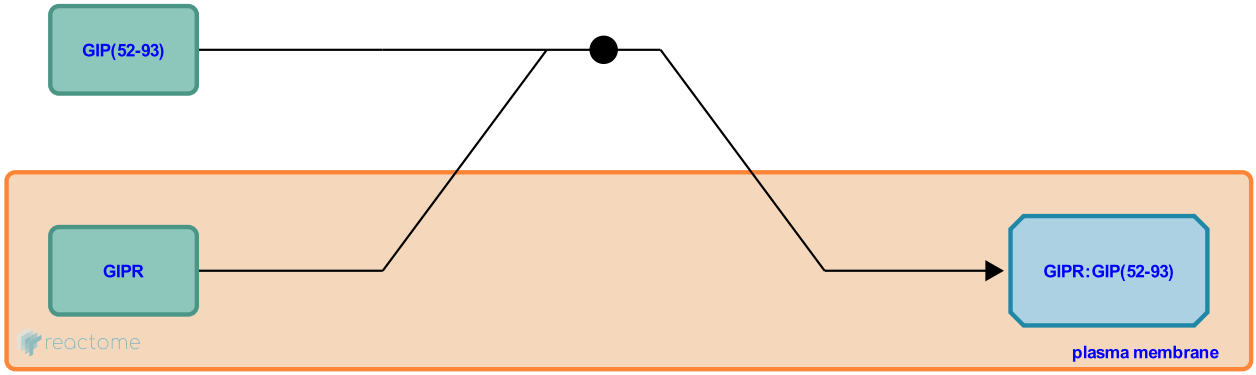
Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968. ↗

GIP receptor binds gastric inhibitory peptide ↗

Stable identifier: R-HSA-420274

Type: binding

Compartments: extracellular region, plasma membrane



Gastric inhibitory polypeptide (GIP, glucose-dependent insulinotropic peptide) (Moody AJ et al, 1984) is a member of the secretin family of hormones. It is synthesized and secreted from endocrine cells in the small intestine. GIP induces insulin secretion, which is primarily stimulated by hyperosmolarity of glucose in the duodenum. Gastric inhibitory polypeptide receptors are found on beta-cells in the pancreas (Volz A et al, 1995). Their effects are mediated by coupling to the G protein alpha s subunit, which stimulates adenylyl cyclase which can increase intracellular cAMP levels (Bollag RJ et al, 2000).

Literature references

Moody, AJ., Thim, L., Valverde, I. (1984). The isolation and sequencing of human gastric inhibitory peptide (GIP). *FEBS Lett, 172*, 142-8. ↗

Volz, A., Göke, R., Lankat-Buttgereit, B., Fehmann, HC., Bode, HP., Göke, B. (1995). Molecular cloning, functional expression, and signal transduction of the GIP-receptor cloned from a human insulinoma. *FEBS Lett, 373*, 23-9. ↗

Bollag, RJ., Zhong, Q., Phillips, P., Min, L., Zhong, L., Cameron, R. et al. (2000). Osteoblast-derived cells express functional glucose-dependent insulinotropic peptide receptors. *Endocrinology, 141*, 1228-35. ↗

Editions

2009-05-11	Authored, Edited	Jassal, B.
2009-05-29	Reviewed	D'Eustachio, P.