HNF1A-dependent synthesis of GLUT2 protein

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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: 82

This document contains 1 reaction (see Table of Contents)

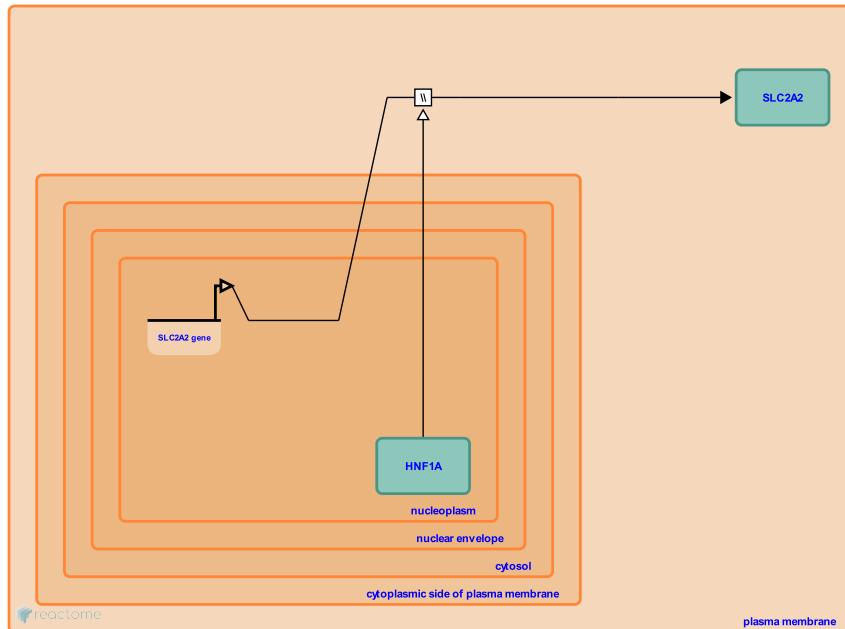# HNF1A-dependent synthesis of GLUT2 protein ↗

Stable identifier: R-HSA-211476

Type: omitted

Compartments: nucleoplasm, plasma membrane

Inferred from: HNF1a transactivates Glut2 (Mus musculus)

The GLUT2 gene is transcribed, its mRNA is translated, and the protein product is localized to the plasma membrane. GLUT2 expression is positively regulated by HNF1A. In vivo, pancreatic GLUT2 expression is positively regulated by HNF1A. Mutations in HNF1A are associated with a form of MODY (maturity onset diabetes of the young) (Fanjans et al. 2001) and interactions between the HNF1A protein product and the GLUT2 promoter have been demomstrated in vitro (Ban et al. 2002). However, the molecular details of GLUT2 expression in intact pancreatic beta cells have not been studied in humans, but are inferred from corresponding ones worked out in the mouse.

Editions

2008-05-13	Edited	D'Eustachio, P.
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