

Clathrin-mediated endocytosis of tetX

HC:LC:gangliosides

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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: 88

This document contains 1 reaction ([see Table of Contents](#))

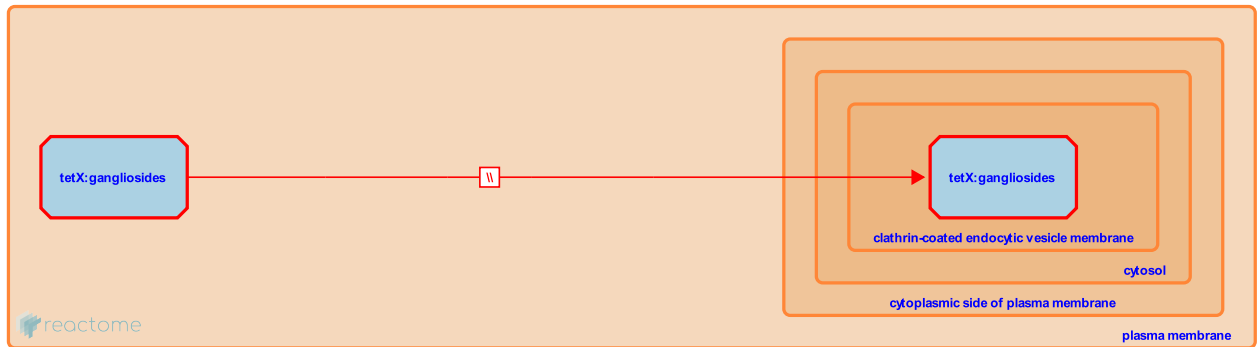
Clathrin-mediated endocytosis of tetX HC:LC:gangliosides [↗](#)

Stable identifier: R-HSA-5228411

Type: omitted

Compartments: plasma membrane, clathrin-coated endocytic vesicle

Diseases: tetanus



Ganglioside-bound tetanus toxin disulfide-bonded heavy chain - light chain dimer (tetX HC:LC) is taken up into the target cell by clathrin-mediated endocytosis (Deinhardt et al. 2006).

Literature references

Schiavo, G., Hopkins, CR., Deinhardt, K., Willison, HJ., Berninghausen, O. (2006). Tetanus toxin is internalized by a sequential clathrin-dependent mechanism initiated within lipid microdomains and independent of epsin1. *J. Cell Biol.*, 174, 459-71. [↗](#)

Editions

2007-08-03	Reviewed	Ichtchenko, K.
2014-02-11	Authored	D'Eustachio, P.
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