BoNT/E HC:LC binds SV2A or B and GT1b on the target cell surface

D'Eustachio, P., Gopinathrao, G., Ichtchenko, K., Krupa, S., Sharma, S., Thirunavukkarasu, N.
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


Reactome database release: 70

This document contains 1 reaction (see Table of Contents)
BoNT/E HC:LC binds SV2A or B and GT1b on the target cell surface

**Stable identifier:** R-HSA-5244503

**Type:** binding

**Compartments:** extracellular region, plasma membrane

**Diseases:** botulism

The Botulinum toxin type E disulfide bonded heavy chain - light chain heterodimer (BoNT/E HC:LC, encoded by the C. botulinum botE gene) (Kumaran et al. 2009) binds ganglioside GT1b and synaptic vesicle protein 2A (SV2A) or 2B (SV2B) on the plasma membrane of a human target cell. In vivo, this process specifically targets synapses at neuromuscular junctions, where toxin association with ganglioside may position it to bind efficiently to SV2A or B when those proteins are exposed at the cell surface by exocytosis (Dong et al. 2008; Rummel et al. 2009).

**Literature references**


**Editions**

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