botE LC cleaves target cell SNAP25

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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

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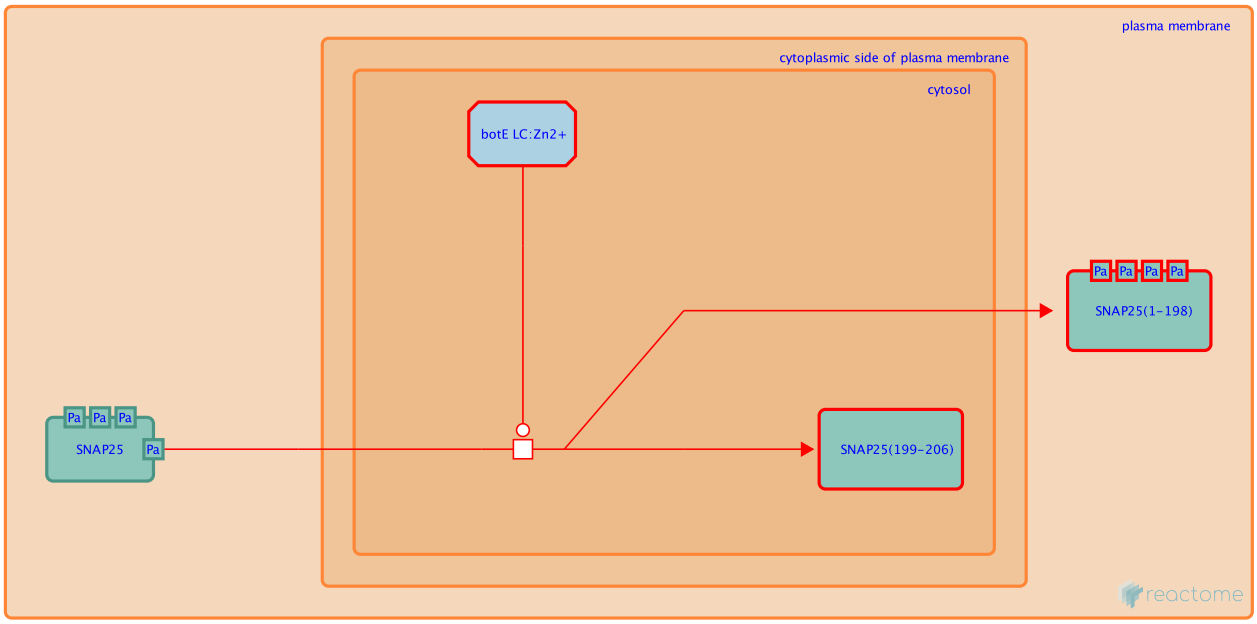
Stable identifier: R-HSA-194800

Type: transition

Compartments: cytosol, plasma membrane

Diseases: botulism



Botulinum toxin type E light chain (botE LC), in the cytosol of a target cell, catalyzes the removal of a carboxyterminal peptide from synaptosomal-associated protein 25 (SNAP25). botE LC is a zinc metalloprotease (Binz et al. 1994; Schiavo et al. 1993; Vaidyanathan et al. 1999). SNAP25 is associated with the cytosolic face of the target cell plasma membrane where it forms part of a complex required for synaptic vesicle docking and exocytosis. Its cleavage by botulinum toxin blocks synaptic vesicle fusion with the plasma membrane and neurotransmitter release and in vivo leads to a long lasting flaccid paralysis (Sudhof et al, 1993; Sudhof 2004).

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Editions

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