UNC93B1 delivers endosomal full-length TLRs to endolysosome

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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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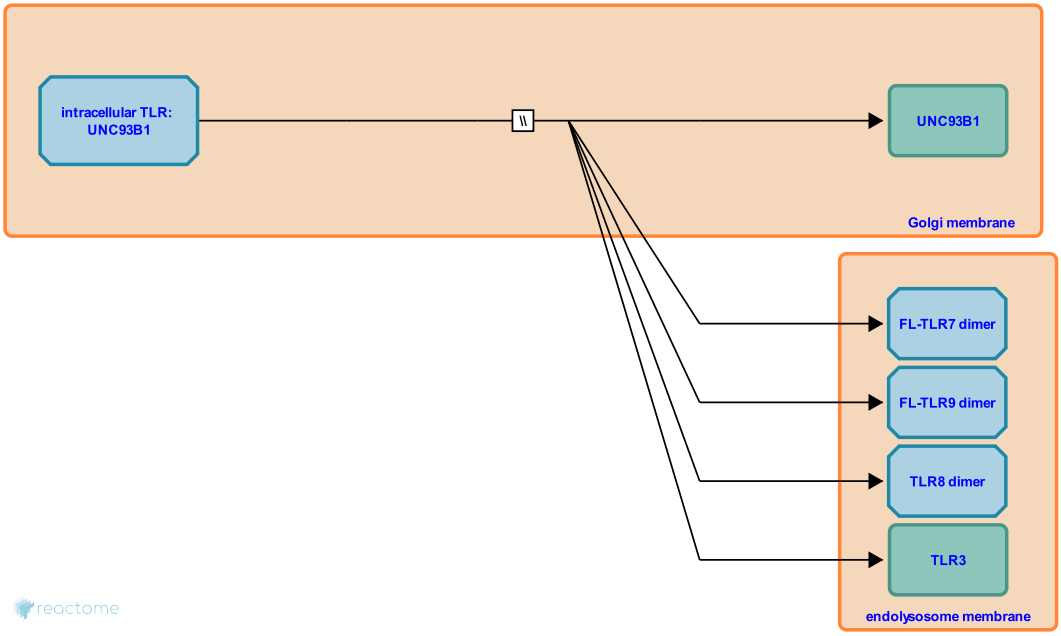
Stable identifier: R-HSA-1678927

Type: omitted

Compartments: endolysosome membrane, Golgi membrane



TLR3, 7, 8 and 9 activation occurs within acidified endolysosomal compartments. Inhibition of endosome acidification with bafilomicin A or chloroquine abrogated TLR's-mediated responses to pathogen-derived nucleic acids (Hacker H et al 1998, Funami K et al 2004, Gibbard RJ et al 2006, Kuznik A et al 2011). Upon stimulation, TLR3, 7, and 9 (and possibly TLR8) are transported to the signaling endosomes by UNC93B1, whereby they become functional receptors and bind to their specific ligands (Kim et al 2008, Ewald et al 2011). Although UNC93B1 is critically involved in TLRs trafficking it was dispensable for ligand binding by these TLRs (Kim YM et al 2008).

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Editions

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