

SALMs 1-3 bind to PSD-95 family members

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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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- 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. [↗](#)
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Reactome database release: 88

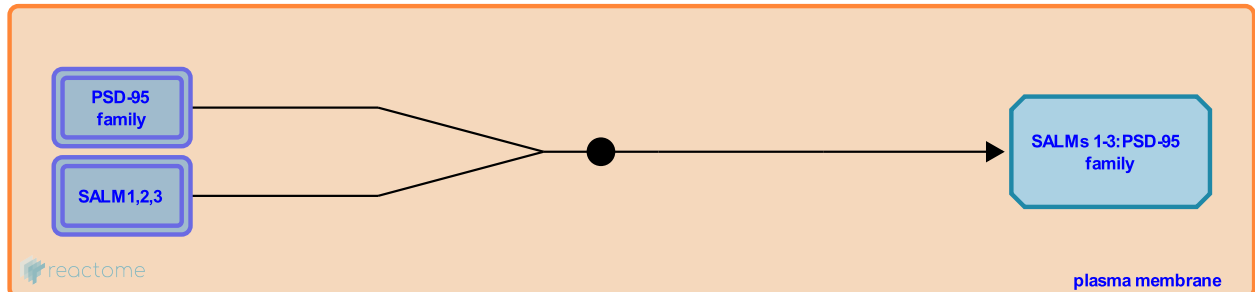
This document contains 1 reaction ([see Table of Contents](#))

SALMs 1-3 bind to PSD-95 family members [↗](#)

Stable identifier: R-HSA-8849891

Type: binding

Compartments: plasma membrane



SALMs 1-3 interact with the PDZ domain containing proteins PSD 95 (DLG4) and synapse associated protein 97 (SAP97 or DLG1) and SAP102 (DLG3), based on yeast 2-hybrid assays (Wang et al. 2006, Ko et al. 2006) and coimmunoprecipitations from detergent solubilized brain (Wang et al. 2006, Ko et al. 2006, Mah et al. 2010) and transiently transfected mammalian cells (Morimura et al., 2006, Wang et al. 2006). PDZ proteins play a central role in organizing functionally diverse membrane proteins at the synapse (Wang et al. 2006, Zheng et al. 2011). PSD-95 family members are abundant postsynaptic scaffolding proteins at excitatory synapses. SALM1 (Wang et al. 2006), SALM2 (Ko et al. 2006), SALM3 and SALM5 (Mah et al. 2010) proteins are enriched in synaptic fractions. SALM5 forms a weak complex with PSD-95, an abundant postsynaptic scaffolding protein at excitatory synapse most likely through indirect interactions (Mah et al. 2010). SALM3 and SALM5, but not other SALMs, induce presynaptic differentiation in contacting axons (Mah et al. 2010).

Literature references

Wang, YX., Wang, CY., Wenthold, RJ., Petralia, RS., Seabold, GK., Chang, K. (2006). A novel family of adhesion-like molecules that interacts with the NMDA receptor. *J. Neurosci.*, 26, 2174-83. [↗](#)

Editions

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