Cis-heterodimerization of NgCAM and DM-GRASP/ALCAM

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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. ↗

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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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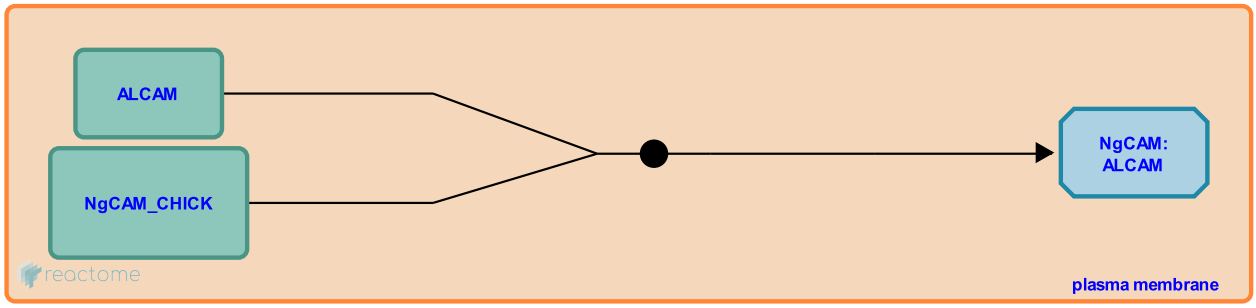
Stable identifier: R-GGA-443781

Type: binding

Compartments: plasma membrane



DM GRASP/ALCAM/BEN is one of the heterodimerizing partners for L1/NgCAM. Interation between L1/NgCAM and DM GRASP in the growth cone membrane is involved in L1 stimulated neurite outgrowth. Trans binding of L1 on retinal growth cones to ALCAM on the superior colliculus potentiates adhesion, leading to correct synaptic targeting.

Literature references

DeBernardo, AP., Chang, S. (1996). Heterophilic interactions of DM-GRASP: GRASP-NgCAM interactions involved in neurite extension. *J Cell Biol, 133*, 657-66.

Editions

2008-07-30	Authored, Edited	Garapati, P V.
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