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C2 domain of synaptotagmin I associates with lipid rafts of plasma membrane

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Abstract

In this paper we report that the C2 domain of synaptotagmin I (sty I) could associate with lipid rafts of plasma membrane. We demonstrate that phosphatidylinositol 4,5-bisphosphate (PIP_2) in the target membrane and Ca^{2+} are the key factors to enhance the raft association of the C2 domain. We also found that the raft association of the C2 domain could be fulfilled by either C2A or C2B alone, suggesting that their raft association might be complementary. Finally, we indicate that destroying lipid rafts or blocking sty I-raft association could significantly reduce the Ca^{2+}-driven release of glutamates. Our data indicate that the raft association of the C2 domain might play an important role in the regulated exocytosis.

Keywords

C2 domain synaptotagmin I lipid raft

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