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## **AMPA receptor subunit glutamate receptor-interacting protein 1 (GRIP1) binds to the Microtubule-associated Protein (MAP1B)**

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The  $\alpha$ -amino-3-hydroxy-5-methyl-4-isoxazole propionate (AMPA) receptor is a heterotrimeric complex, assembled from up to four different subunits (GluR1-GluR4), that provides the major source of fast, excitatory synaptic transmission. It binds cytosolic adapter proteins that contain PDZ domains. AMPA receptor-binding protein (ABP) and GRIP1 have seven PDZ domains and interact through PDZ4 and PDZ5 with the C-terminal of the GluR2 and GluR3 subunits of the postsynaptic AMPA-type glutamate receptors. ABP and GRIP1 are present both at the postsynaptic membrane and intracellular compartments, including the putative transport vesicles of neurons. GRIP1 might play a multifaceted role in assembling and localizing postsynaptic complexes. To address the assembling and localizing of the GRIP1/AMPA receptor complex, it was necessary to identify the interaction proteins in GRIP1.

To identify the interaction proteins for the GRIP1, GRIP1 interactions with microtubule-associated protein (MAP)-1B light chain (LC) were investigated. GRIP1 interacts with MAP-1A and MAP-1B in the yeast two-hybrid assay, as is indicated also by glutathione S-transferase (GST) pull-down and coimmunoprecipitation with MAP-1B LC antibody in brain fractions. These results suggest a novel mechanism for localizing AMPA receptors to synaptic sites.