

DESCRIPTION

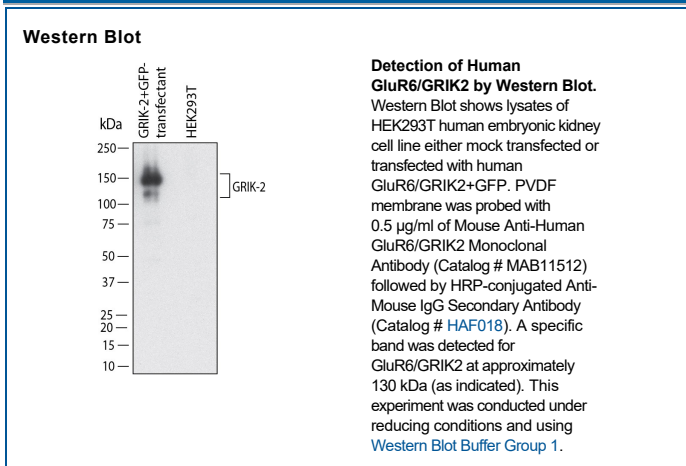
Species Reactivity	Human
Specificity	Detects recombinant human GluR6/GRIK2 in Western blots.
Source	Monoclonal Mouse IgG _{2B} Clone # 1060307
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line CHO-derived human GluR6/GRIK2 protein Thr32-Asn549 Accession # Q13002
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	HEK293T human embryonic kidney cell line either mock transfected or transfected with human GluR6/GRIK2+GFP

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The Ionotropic Glutamate Receptors are a family of ligand-gated ion channels involved in regulating fast excitatory synaptic transmission in the central nervous system (CNS) (1, 2). The family consists of ~18 members which is divided into 3 groups based on the activating agonist: N-Methyl-D-Aspartate (NMDA), α -Amino-3-hydroxy-5-Methyl-4-isoxazole Propionic Acid (AMPA) and kainate (KA) (1, 2). KA receptors (KAR) are found in the pre- and postsynaptic membranes of the central nervous system, most prominently in the hippocampus, where they regulate synaptic transmission, neuronal excitability, and network activity (3). Glutamate receptor 6 (GluR6) (also Glutamate receptor ionotropic, kainate 2 or GluK2) along with GluR5, GluR7 and receptor subunits KA1 and KA2 belong to the KAR sub-group as these molecules are activated by kainic acid (1-3). Mature human GluR6 is a 3-transmembrane protein with a long (530 aa) N-terminal extracellular domain (ECD), a M2 domain involved in pore formation and a short C-terminal intracellular domain (4). The ECD of human GluR6 is highly conserved and shares 99% identity with both mouse and rat. Under physiological conditions, GluR6 forms either a homomeric or heteromeric receptor channel with GluR5 or KA1/2 to become functional (5, 6).

Activation of KAR complexes result in Ca²⁺-dependent release of glutamatergic or GABAergic signals (7). The modulatory role of KARs make them attractive therapeutic candidates as glutamate excitotoxicity has been associated with multiple neurodegenerative and mental disorders. Misregulation of GluR6 has been suggested to be a factor in autism, Huntington disease and epilepsy (8). Additionally, GluR6 has been suggested to play a role in tumor suppression in Gastric cancer (9) while potentially displaying the opposite effect in urological cancers (10).

References:

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