Human GluR6/GRIK2 Alexa Fluor® 647-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 818235

Catalog Number: FAB9610R

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human GluR6/GRIK2 in cell-based ELISAs.
Source	Monoclonal Mouse IgG_{2A} Clone # 818235
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
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

Flow Cytometry	Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was CHO cell line transfected with human GluR6/GRIK2.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

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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