Glutamate Receptor (GPRC1A, GRM1-ALPHA, GRM1A, MGLUR1-ALPHA, MGLUR1A, mGlu1, Glutamate ReceptorMetabotropic 1)

Catalog number

G3500-05

Supplier

United States Biological

L-glutamate is the major excitatory neurotransmitter in the central nervous system and activates both ionotropic and metabotropic glutamate receptors. Glutamatergic neurotransmission is involved in most aspects of normal brain function and can be perturbed in many neuropathologic conditions. The metabotropic glutamate receptors are a family of G protein-coupled receptors, that have been divided into 3 groups on the basis of sequence homology, putative signal transduction mechanisms, and pharmacologic properties. The Glutamate Receptor, Metabotropic, 1, (mGluR1 alpha) activates phospholipase C and participates in the central action of glutamate in the central nervous system, such as long-term potentiation in the hippocampus and long-term depression in the cerebellum.

Positive Control

Human brain lysate, rat dorsal root ganglion, and rat brain (cingulate cortex)

Applications

Suitable for use in Western Blot and Immunohistochemistry. Other applications not tested.

Recommended Dilution

Optimal dilutions to be determined by the researcher.

Storage and Stability

May be stored at 4°C for short-term only. For long-term storage and to avoid repeated freezing and thawing, aliquot Store at -20°C. Aliquots are stable for at least 12 months at -20°C. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Further dilutions can be made in assay buffer.

Immunogen

Synthetic peptide comprising residues 1159-1171 [SSVPSSPVSESVL] of the human GluR1 protein.

Formulation

Supplied as a liquid in PBS, pH 7.2.

Purity

Purified by immunoaffinity chromatography.

Specificity

Recognizes Glutamate Receptor

Product Type

Pab

Source

human

Isotype

IgG

Grade

Affinity Purified

Applications

IHC WB

Crossreactivity

Hu

Storage

-20°C

Reference

1. Ichise, T., Kano, M., Hashimoto, K., Yanagihara, D., Nakao, K., Shigamoto, R., Katsuki, M. and Alba, A. mGluR1 in cerebellar Purkinje cells essential for long-term depression, synapse elimination, and motor coordination. Science 288: 1832-1835, 2000.
2. Kim, S. J., Kim, Y. S., Yuan, J. P., Petralia, R. S., Worley, P. F. and Linden, D. J. Activation of the TRPC1 cation channel by metabotropic glutamate receptor mGluR1. Nature 426: 285-291, 2003.
3. Kunishima, N., Shimada, Y., Tsuji, Y., Sato, T., Yamamoto, M., Kumasaka, T., Nakanishi, S., Jingami, H. and Morikawa, K. Structural basis of glutamate recognition by a dimeric metabotropic glutamate receptor. Nature 407: 971-977, 2000.