

AP08693PU-N**Polyclonal Antibody to mGluR5/1a (C-term) - Aff - Purified****Alternate names:**

GRM1A, GRM5, MGLUR1a, MGLUR5, Metabotropic Glutamate Receptor 5/1a

Quantity:

0.1 ml

Background:

The metabotropic glutamate receptors (mGluRs) are key receptors in the modulation of excitatory synaptic transmission in the central nervous system. They are implicated in many forms of neural plasticity as well as learning and memory and drug abuse (Bhattacharya et al., 2004; Francesconi et al., 2004; Wilson and Nicoll, 2001). Group I metabotropic glutamate receptors (consisting of mGluR1 and mGluR5) are G-protein-coupled neurotransmitter receptors that are localized in the perisynaptic region of the postsynaptic membrane. When activated, Group I mGluRs lead to stimulation of phospholipase and activation of Protein Kinase C. In contrast, activation of Group II metabotropic receptors (mGluR2 and mGluR3) leads to inhibition of adenylate cyclase. The mGluR1 receptor may also be critically involved in limiting the deleterious effects of excitotoxicity (Blaabjerg et al., 2003). In contrast, the mGluR5 receptor appears to be essential for late phase LTP in area CA1 of the hippocampus (Francesconi et al., 2004).

Host / Isotype:

Rabbit / IgG

Immunogen:

Peptide from the C-terminal region of rat mGluR5 and rat mGluR1a.

Format:**State:** Liquid purified Ig fraction.**Purification:** Affinity Chromatography.**Buffer System:** 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% Glycerol.**Applications:****Western blot:** 1/1000.**Immunohistochemistry:** 1/500.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

This antibody is specific for the ~125k monomer and the ~250k dimers of mGluR5 and mGluR1. Immunolabeling is blocked by preadsorption of antibody with the peptide used as antigen to generate the antibody.

Species Reactivity:**Tested:** Rat.**Expected from sequence similarity:** Human and Mouse.**Storage:**

Store the antibody undiluted (in aliquots) at -20°C.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

1. Bhattacharya M, Babwah AV, Godin C, Anborgh PH, Dale LB, Poulter MO, et al. Ral and phospholipase D2-dependent pathway for constitutive metabotropic glutamate receptor endocytosis. *J Neurosci.* 2004 Oct 6;24(40):8752-61. PubMed PMID: 15470141.

2. Blaabjerg M, Fang L, Zimmer J, Baskys A. Neuroprotection against NMDA excitotoxicity by group I metabotropic glutamate receptors is associated with reduction of NMDA stimulated currents. *Exp Neurol.* 2003 Oct;183(2):573-80. PubMed

PMID: 14552898.

3. Francesconi W, Cammalleri M, Sanna PP. The metabotropic glutamate receptor 5 is necessary for late-phase long-term potentiation in the hippocampal CA1 region. *Brain Res.* 2004 Oct 1;1022(1-2):12-8. PubMed PMID: 15353208.

4. Wilson RI, Nicoll RA. Endogenous cannabinoids mediate retrograde signalling at hippocampal synapses. *Nature.* 2001 Mar 29;410(6828):588-92. PubMed PMID: 11279497.

Pictures:

Figure 1. Western blot of 10 ug of HEK 293 cells expressing mGluR1a and mGluR5 showing the specific immunolabeling of the ~125k monomer and the ~250k dimers of mGluR1a and mGluR5.

