Human/Mouse/Rat mGluR5/1a Antibody

Antigen Affinity-purified Polyclonal Rabbit IgG
Catalog Number: PPS079

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Rat ~125 kDa mGluR5 and mGluR1a monomers and ~250 kDa homodimers
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	Peptide from the C-terminus region of rat mGluR5 and mGluR1a
Formulation	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA, and 50% glycerol. See Certificate of Analysis for details.

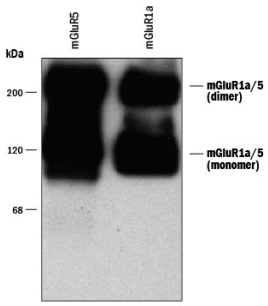
APPLICATIONS

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	1:1000 dilution	See Below
Immunohistochemistry	1:500 dilution	(frozen sections; unpublished observations)

DATA

Western Blot



Detection of mGluR5/1a by Western Blot
Western blot of HEK 293 cells expressing mGluR1a and mGluR5 showing the specific immunolabeling of the ~125 kDa monomers and the ~250 kDa dimers of mGluR1a and mGluR5.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

BACKGROUND

Rat metabotropic glutamate receptor 5 (mGluR5b; also mGlu5b) is a 150 kDa, 1183 amino acid (aa), 7-transmembrane glycoprotein that belongs to group I of the C-family of G-protein coupled receptors. Group I receptors include mGluR1 and mGluR5. Both are postsynaptic, associated with Gq-like proteins, mobilize Ca++ from intracellular stores, and regulate neuronal excitability by influencing ion channel activity. Their activities are not necessarily redundant. Although both mobilize intracellular Ca++ stores, mGluR1 also induces Ca++ influx via TRP channels. On T cells, mGluR1 is inducible and promotes cell proliferation, while mGluR5 is constitutive and blocks cell proliferation. mGluR5 has a large glycosylated extracellular domain (ECD) of 558 aa. The ECD either covalently homodimerizes or heterodimerizes with the Ca++-sensor receptor (CaSR). Dimerization creates two subunit-linked “open clamshells” which first bind glutamate, then close, and subsequently undergo rearrangement for signal transduction. There is one alternate splice form of mGluR5b. It shows a 32 aa deletion between aa 876 - 907 in the cytoplasmic region. The rat mGluR5 C-terminal cytoplasmic region is 90% and 97% aa identical to the equivalent regions in human and mouse mGluR5, respectively.

References:

1. Pin, J-P. and F. Acher (2002) Curr. Drug Targets CNS Neurol. Disord. 1:297.
2. Boldyrev, A.A. et al. (2005) J. Neurochem. 95:913.
3. Ferraguti, F. and R. Shigemoto (2006) Cell Tissue Res. 326:483.
4. Gama, L. et al. (2001) J. Biol. Chem. 276:39053.
5. Topolnik, L. et al. (2006) J. Physiol. 575:115.

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