Revision 5

Store at -20C

#12551

mGluR1 (D5H10) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P, IF-F	H M R	Endogenous	145, >300	Rabbit IgG	#Q13255	2911

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:100 - 1:400
Immunofluorescence (Frozen)	1:400 - 1:1600

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #95008.

Specificity/Sensitivity

mGluR1 (D5H10) Rabbit mAb recognizes endogenous levels of total mGluR1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu1105 of human mGluR1 protein.

Background

Metabotropic glutamate receptor 1 (mGluR1) is a G protein-coupled receptor (GPCR) for the neurotransmitter glutamate in the mammalian brain. Unlike ionotropic receptors, metabotropic receptors do not form an ion channel pore themselves but are indirectly linked to ion channels (1). Both mGluR1 and mGluR5 are coupled to phospholipase C and activate inositol phospholipid metabolism via G protein-mediated mechanisms. Upon phosphatidylinositol activation, the second messenger calcium is released and generates a calcium-activated chloride current. Metabotropic glutamate receptors other than mGluR1 and mGluR5 inhibit adenylate cyclase (1-3). mGluR1 does not share sequence homology with conventional GPCRs (1). mGluR1 forms a homodimer and is linked to synaptic plasticity, as well as long-term potentiation and long-term depression. Furthermore, mGluR1 is a potential therapeutic target for various psychiatric and neurological diseases, including schizophrenia, epilepsy, and Parkinson and Alzheimer diseases (4-6).

Background References

1. Pin, J.P. et al. (1994) *EMBO J* 13, 342-8.
2. Sugiyama, H. et al. (1987) *Nature* 325, 531-3.
3. Hermans, E. and Challiss, R.A. (2001) *Biochem J* 359, 465-84.
4. Niswender, C.M. et al. (2005) *Curr Top Med Chem* 5, 847-57.
5. Pellicciari, R. and Costantino, G. (1999) *Curr Opin Chem Biol* 3, 433-40.
6. Olive, M.F. (2009) *Curr Drug Abuse Rev* 2, 83-989.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **IF-F:** Immunofluorescence (Frozen)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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Limited Uses

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