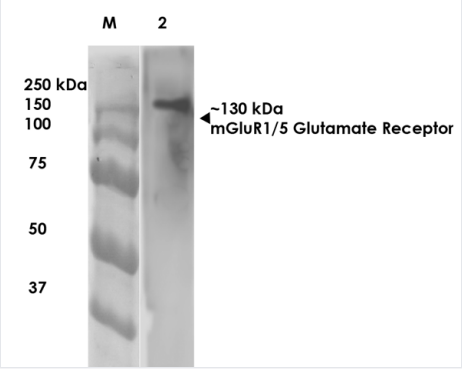
Mglur1/5 (GRM5) Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	mGluR1/5 (Grm5), Monoclonal Antibody
Full Product Name	mGluR1/5 Glutamate Receptor Antibody: HRP
Product Gene Name	anti-Grm5 antibody
Product Synonym Names	mGluR; metabotropic glutamate receptor 5; metabotropic glutamate receptor 1; mGlu5; mGlu1; mGluR5; mGluR1; GPRC1E; GRM5; Metabotropic glutamate receptor 5 variant F; Metabotropic glutamate receptor 5 variant G; Metabotropic glutamate receptor 5 variant H
Clonality	Monoclonal
Isotype	IgG2a
Clone Number	S75-3
Host	Mouse
Species Reactivity	Mouse, Human, Rat
Form/Format	Protein G Purified
Concentration	1mg/mL (lot specific)
Preparation and Storage	-20 degree C
Matching Pairs	Unconjugated Antibody: mGluR1/5 Clone #S75-3 (MBS803611) HRP Conjugated Antibody: mGluR1/5 Clone #S75-3 (MBS804353)
Matching Pairs	Unconjugated Antibody: N/A (MBS804353) HRP Conjugated Antibody: mGluR1/5 Clone #S75-3 (MBS804353)
Molecular Weight	128,290 Da
3D Structure	ModBase 3D Structure for P31424
Conjugate	HRP
Storage Buffer	PBS pH7.4, 50% glycerol, 0.09% sodium azide
Product Categories/Family for anti-Grm5 antibody	Cell Signaling; Neuroscience
Applications Tested/Suitable for anti-Grm5 antibody	Western Blot (WB), Immunohistochemistry (IHC), Immunoprecipitation (IP)
Application Notes for anti-Grm5 antibody	1ug/mL (WB), 0.1-1.0ug/mL (IHC/ICC)

Related Product Information for anti-Grm5 antibody	**Background Info:** Detects ~130kDa (both mGluR1 and mGluR5) **Scientific Background:** Ion channels are integral membrane proteins that help establish and control the small voltage gradient across the plasma membrane of living cells by allowing the flow of ions down their electrochemical gradient (1). They are present in the membranes that surround all biological cells because their main function is to regulate the flow of ions across this membrane. Whereas some ion channels permit the passage of ions based on charge, others conduct based on a ionic species, such as sodium or potassium. Furthermore, in some ion channels, the passage is governed by a gate which is controlled by chemical or electrical signals, temperature, or mechanical forces. There are a few main classifications of gated ion channels. There are voltage- gated ion channels, ligandgated, other gating systems and finally those that are classified differently, having more exotic characteristics. The first are voltage- gated ion channels which open and close in response to membrane potential. These are then separated into sodium, calcium, potassium, proton, transient receptor, and cyclic nucleotide-gated channels; each of which is responsible for a unique role. Ligand-gated ion channels are also known as ionotropic receptors, and they open in response to specific ligand molecules binding to the extracellular domain of the receptor protein. The other gated classifications include activation and inactivation by second messengers, inward rectifier potassium channels, calcium-activated potassium channels, two-pore-domain potassium channels, light-gated channels, mechano-sensitive ion channels and cyclic nucleotide-gated channels. Finally, the other classifications are based on less normal characteristics such as two-pore channels, and transient receptor potential channels (2). The AMPA receptor is a non-NMDA-type ionotropic transmembrane receptor for glutamate that mediates fast synaptic transmission in the CNS. AMPARs are composed of four types of subunits, designated as GluR1, GluR2, GluR3 and GluR4, which combine to form tetramers (3, 4).
Product References and Citations for anti-Grm5 antibody	1. Hille B. (2001) Ion Channels of Excitable Membranes, 3rd Ed., Sinauer Associated Inc.: Sunderland, MA USA 2. www.ionchannels.org 3. Mayer M.L. (2005) Current Opinion in Neurobio. 15(3): 282-288. 4. Keinane K., et al. (1990) Science. 249: 556-560.
Other Notes	Small volumes of anti-Grm5 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Grm5 purchase	MBS804353 is an antibody targeting Grm5. Also known as mGluR1/5 Glutamate Receptor Antibody: HRP. Reactive in Mouse, Human, Rat. Host: Mouse.



Western Blot (WB) of anti-Grm5 antibody
Western Blot analysis of Rat Brain Membrane showing detection of ~130 kDa mGluR5 protein using Mouse Anti-mGluR5 Monoclonal Antibody, Clone S75-33. Lane 1: Molecular Weight (MW) Ladder. Lane 2: Rat Brain Membrane. Load: 10 ug. Block: 5% milk. Primary Antibody: Mouse Anti-mGluR5 Monoclonal Antibody at 1:1000 for 1 hour at RT. Secondary Antibody: Goat Anti-Mouse IgG: HRP at 1:200 for 1 hour at RT. Color Development: TMB solution for 10 min at RT. Predicted/Observed Size: ~130 kDa.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Grm5. It may not necessarily be applicable to this product.

NCBI GI #	8393490
NCBI GeneID	24418
NCBI Accession #	NP_058708.1
UniProt Primary Accession #	P31424

UniProt Related Accession #	P31424
GenBank Nucleotide #	NM_017012.1
NCBI Official Full Name	metabotropic glutamate receptor 5
NCBI Official Synonym Full Names	glutamate receptor, metabotropic 5
NCBI Official Symbol	Grm5
NCBI Official Synonym Symbols	mGluR5; mGlur5
UniProt Protein Name	Metabotropic glutamate receptor 5
Protein Family	Metabotropic glutamate receptor
UniProt Gene Name	Grm5
UniProt Synonym Gene Names	Gprc1e; Mglur5; mGluR5
UniProt Entry Name	GRM5_RAT
NCBI Protein Information	metabotropic glutamate receptor 5; metabotropic glutamate receptor 5b; metabotropic glutamate receptor (mGluR5)
NCBI Summary for Grm5	may play a role in synaptic transmission; may interact with mGluR1, another group I metabotropic glutamate receptor [RGD, Feb 2006]
UniProt Comments for Grm5	G-protein coupled receptor for glutamate. Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of down-stream effectors. Signaling activates a phosphatidylinositol-calcium second messenger system and generates a calcium-activated chloride current. Plays an important role in the regulation of synaptic plasticity and the modulation of the neural network activity.
Research Articles on Grm5	**1.** Norbin associates with actin rather than with PSD-95 in dendritic spines.
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