Technical Data Sheet

Purified Mouse Anti-Rat mGluR1α

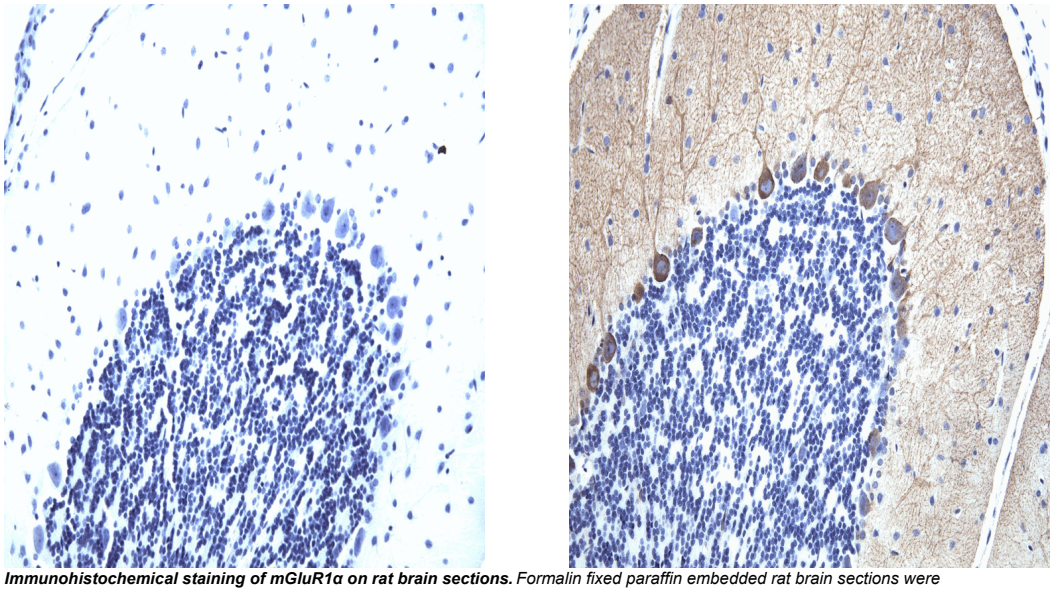
Product Information

Material Number:	**556389**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	G209-2048
Immunogen:	Recombinant Rat mGluR1 Fusion Protein
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat
Target MW:	133 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

Glutamate is a major excitatory neurotransmitter in mammalian brain. Glutamatergic neurotransmission is mediated by a family of glutamate receptors that can be grouped into two classes, ionotropic (GluR) and metabotropic (mGluR) receptors. The metabotropic glutamate receptors consist of at least seven subtypes that can be divided into three groups on the basis of their sequence similarities, intracellular second messengers and agonist selectivities. These groups are: 1) mGluR1 and mGluR5; 2) mGluR2 and mGluR3; and 3) mGluR4, mGluR6 and mGluR7. mGluR1 and mGluR5 are coupled to the inositol phosphate/Ca[2+] signal transduction pathway, whereas the other five receptors are linked to the inhibition of the cAMP cascade. mRNA analysis shows that the seven receptors have different expression patterns in the central nervous system. For example, the highest level of mGluR1 mRNA expression is found in the cerebellar Purkinje cells. mGluR7 mRNA is moderately expressed in these cells, whereas the mRNA of the other five mGluRs is barely detectable. Three splice variants have been described for mGluR1: mGluR1α (145 kDa), mGluR1β (97 kDa), and mGluR1c (97 kDa).

Clone G209-2048 recognizes rat mGluR1α. It does not cross-react with the other splice mGluR1 variants, mGluR1β, and mGluR1c. Additionally, G209-2048 does not cross-react with mGluR5, the most closely related mGluR family member. A full length recombinant rat mGluR1 fusion protein was used as immunogen.



Immunohistochemical staining of mGluR1α on rat brain sections. *Formalin fixed paraffin embedded rat brain sections were stained with either Purified Mouse IgG1, κ Isotype Control (Cat. No. 550878; Left Panel) or Purified Mouse anti-Rat mGluR1α (Cat. No 556389; Right Panel). Pretreatment is not needed. Original magnification is 20X. Antibodies were used at 0.5 - 2.0 µg/mL. Development was assisted with the Anti-Mouse Ig HRP Detection Kit (Cat. No. 551011).*

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

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Application Notes

Application

Immunohistochemistry-paraffin	Routinely Tested
Immunohistochemistry-frozen	Tested During Development
Western blot	Tested During Development

Recommended Assay Procedure:

Clone G209-2048 is routinely tested by immunohistochemistry on paraffin embedded rat brain tissue sections with no pretreatment required. For more detailed information please refer to http://www.bdbiosciences.com/support/resources/cell_biology/index.jsp
Western Blot analysis was performed during development on rat brain lysate. For more detailed information please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
550878	Purified Mouse IgG1 κ Isotype Control	1.0 ml	MOPC-31C
559148	Antibody Diluent for IHC	125 ml	(none)
551011	Anti-Mouse Ig HRP Detection Kit	200 tests	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Masu M, Tanabe Y, Tsuchida K, Shigemoto R, Nakanishi S. Sequence and expression of a metabotropic glutamate receptor. *Nature.* 1991; 349(6312):760-765. (Biology)
Shigemoto R, Abe T, Nomura S, Nakanishi S, Hirano T. Antibodies inactivating mGluR1 metabotropic glutamate receptor block long-term depression in cultured Purkinje cells. *Neuron.* 1994; 12(6):1245-1255. (Biology)
Shigemoto R, Nakanishi S, Mizuno N. Distribution of the mRNA for a metabotropic glutamate receptor (mGluR1) in the central nervous system: an in situ hybridization study in adult and developing rat. *J Comp Neurol.* 1992; 322(1):121-135. (Biology)