Technical Data Sheet

Purified Mouse Anti-Rat mGluR1α

Product Information

Material Number: 556331
Size: 0.1 mg
Concentration: 0.5 mg/ml
Clone: G209-488
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 selectivity's. 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).

G209-488 recognizes rat mGluR1α. It does not cross-react with the other splice variants of mGluR1, mGluR1β and mGluR1c. Additionally G209-488 does not crossreact with mGluR5, the most closely related mGluR family member. The antibody was characterized by western blot analysis using rat brain membranes, and by immunohistochemical analysis using frozen rat brain tissue sections. A full length recombinant rat mGluR1 fusion protein was used as immunogen.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

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<tr>
<th>Application</th>
<th>Routinely Tested</th>
<th>Tested During Development</th>
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<tbody>
<tr>
<td>Western blot</td>
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<tr>
<td>Immunohistochemistry-frozen</td>
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556331 Rev. 8
Recommended Assay Procedure:
Applications include western blot analysis (1-2 µg/ml) and immunohistochemical staining of frozen tissue sections. Rat brain is suggested as a positive control for this application.

Suggested Companion Products

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<th>Clone</th>
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<tbody>
<tr>
<td>554002</td>
<td>HRP Goat Anti-Mouse Ig</td>
<td>1.0 ml</td>
<td>(none)</td>
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Product Notices
1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
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
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)