Technical Data Sheet

Purified Mouse Anti-Glutamine Synthetase

Product Information

Material Number: 610517
Alternate Name: Glutamate-Ammonia Ligase; GLUL; GLNS
Size: 50 µg
Concentration: 250 µg/ml
Clone: 6/Glutamine Synthetase
Immunogen: Human Glutamine Synthetase aa. 1-373
Isotype: Mouse IgG2a
Reactivity: QC Testing: Rat
Tested in Development: Human, Mouse
Target MW: 45 kDa
Storage Buffer: Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description
Glutamine synthetase catalyzes the amination of glutamic acid to form glutamine. It is found in mammals as an octamer of identical 45 kDa subunits. Glutamine synthetase activity is a useful marker for astrocytes and an important differentiation feature in retina. It is also considered to be a key enzyme in the recycling of the neurotransmitter glutamate.

Western blot analysis of glutamine synthetase on a rat cerebrum lysate (left). Lane 1: 1:5000, lane 2: 1:10,000, lane 3: 1:20,000 dilution of the anti-glutamine synthetase antibody.

Glutamine synthetase staining on a rat cerebrum section (center). Section prepared during antibody development was formalin fixed and paraffin embedded without citrate buffer pretreatment. Note visible staining of astrocytes in the section. Magnification: 40X.

Immunofluorescent staining of SK-N-SH cells (right). Cells were seeded in a 384 well collagen coated Microplates (Material # 353962) at ~ 8,000 cells per well. After overnight incubation, cells were stained using the methanol fix/perm protocol (see Recommended Assay Procedure; Bioimaging protocol link) and the anti-Glutamine Synthetase antibody. The second step reagent was Alexa Fluor® 488 goat anti mouse Ig (Invitrogen)(pseudo colored green). Cell nuclei were counter stained with Hoechst 33342 (pseudo colored blue). The image was taken on a BD Pathway™ 855 or 435 Bioimager System using a 20x objective and merged using the BD AttoVision™ software. This antibody also stained SH-SY5Y, C6, U87 and U373 cells using both the Triton™ X-100 and methanol fix/perm protocols (see Recommended Assay Procedure; Bioimaging protocol link).

Preparation and Storage
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at -20°C.

Application Notes

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<th>Application</th>
<th>Tested During Development</th>
<th>Not Recommended</th>
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<tr>
<td>Western blot</td>
<td>Routinely Tested</td>
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<td>Immunohistochemistry</td>
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<td>Immunoprecipitation</td>
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<td>Immunofluorescence</td>
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Recommended Assay Procedure:
For Western blot and IHC: Please refer to http://www.bd biosciences.com/resources/cellbiology/index.jsp
For Bioimaging: Please refer to http://www.bd biosciences.com/resources/cellularimaging/index.jsp

Suggested Companion Products

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<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<tr>
<td>611463</td>
<td>Rat Cerebrum Lysate</td>
<td>500 µg</td>
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</tr>
<tr>
<td>554002</td>
<td>HRP Goat Anti-Mouse Ig</td>
<td>1.0 ml</td>
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<tr>
<td>554001</td>
<td>FITC Goat Anti-Mouse Ig</td>
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<td>Polyclonal</td>
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<td>353219</td>
<td>BD Falcon™ 96-well Imaging Plate</td>
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<tr>
<td>554655</td>
<td>Fixation Buffer</td>
<td>100 ml</td>
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<tr>
<td>558050</td>
<td>Perm Buffer III</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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. Triton is a trademark of the Dow Chemical Company.

References