


Anti-Glutamine Synthetase antibody ab73593

★★★★★ [20 Abreviews](#) [76 References](#) [6 Images](#)

Overview

Product name	Anti-Glutamine Synthetase antibody
Description	Rabbit polyclonal to Glutamine Synthetase
Host species	Rabbit
Specificity	Replenishment batches of our polyclonal antibody, ab73593 are tested in IHC-P. Previous batches were additionally validated in ICC/IF and WB. These applications are still expected to work and are covered by our Abpromise guarantee. You may also be interested in our alternative recombinant antibody, ab176562 .
Tested applications	Suitable for: IHC-P, ICC/IF, WB
Species reactivity	Reacts with: Mouse, Rat, Human, Common marmoset Predicted to work with: Hamster, Cow, Dog, Zebrafish 
Immunogen	Synthetic peptide corresponding to Mouse Glutamine Synthetase aa 1-100 conjugated to keyhole limpet haemocyanin. Database link: P15105 (Peptide available as ab73592)
Positive control	IHC-P: FFPE Rat cerebellum and liver tissue sections. ICC/IF: MEF1 cells. WB: Mouse kidney, liver and brain tissue lysate, Rat lung and liver tissue lysate and Human brain tissue lysate, Recombinant Human Glutamine Synthetase protein.
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40

Preservative: 0.02% Sodium azide
Constituent: PBS

Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.

Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

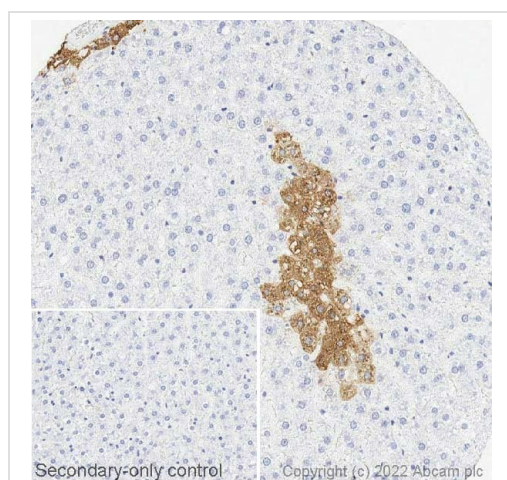
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab73593 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★★ (8)	1/1000.
ICC/IF		Use a concentration of 1 µg/ml.
WB	★★★★★ (5)	Use a concentration of 1 µg/ml. Detects a band of approximately 42 kDa (predicted molecular weight: 42 kDa). Can be blocked with Mouse Glutamine Synthetase peptide (ab73592) .

Target

Function	This enzyme has 2 functions: it catalyzes the production of glutamine and 4-aminobutanoate (gamma-aminobutyric acid, GABA), the latter in a pyridoxal phosphate-independent manner (By similarity). Essential for proliferation of fetal skin fibroblasts.
Involvement in disease	Defects in GLUL are the cause of congenital systemic glutamine deficiency (CSGD) [MIM:610015]. CSGD is a rare developmental disorder with severe brain malformation resulting in multi-organ failure and neonatal death. Glutamine is largely absent from affected patients serum, urine and cerebrospinal fluid.
Sequence similarities	Belongs to the glutamine synthetase family.
Developmental stage	Expressed during early fetal stages.
Cellular localization	Cytoplasm. Mitochondrion.

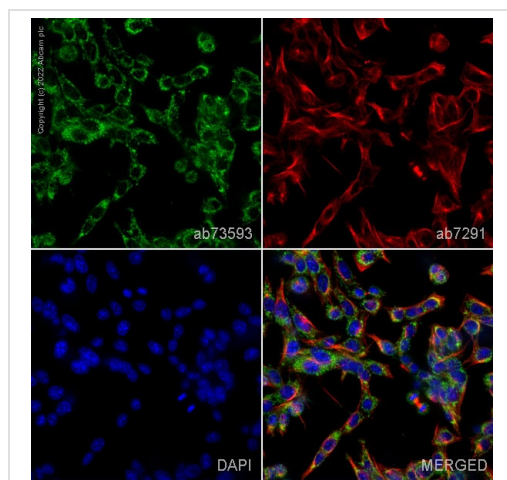
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glutamine Synthetase antibody (ab73593)

IHC image of Glutamine Synthetase staining in a section of formalin-fixed paraffin-embedded normal rat liver performed on a Leica Biosystems BOND[®] RX instrument. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab73593, 1 ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

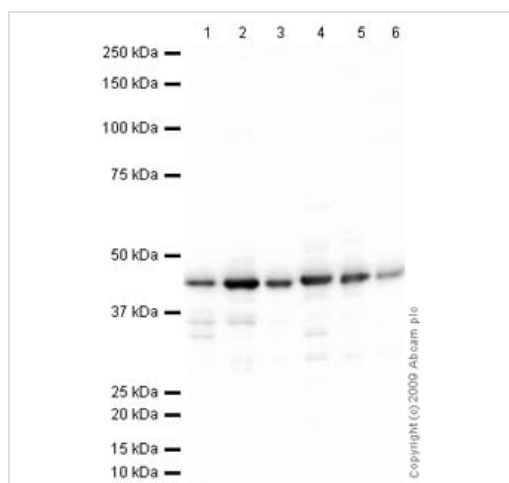
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunocytochemistry/ Immunofluorescence - Anti-Glutamine Synthetase antibody (ab73593)

ab73593 staining Glutamine Synthetase in MEF1 cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab73593 at 1µg/ml and **ab7291**, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor[®] 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab150120**, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor[®] 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Western blot - Anti-Glutamine Synthetase antibody
(ab73593)

All lanes : Anti-Glutamine Synthetase antibody (ab73593) at 1 $\mu\text{g/ml}$

Lane 1 : Kidney (Mouse) Tissue Lysate

Lane 2 : Liver (Mouse) Tissue Lysate

Lane 3 : Liver (Rat) Tissue Lysate

Lane 4 : Human brain tissue lysate - total protein ([ab29466](#))

Lane 5 : Brain (Mouse) Tissue Lysate

Lane 6 : Lung (Rat) Tissue Lysate

Lysates/proteins at 10 μg per lane.

Secondary

All lanes : Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

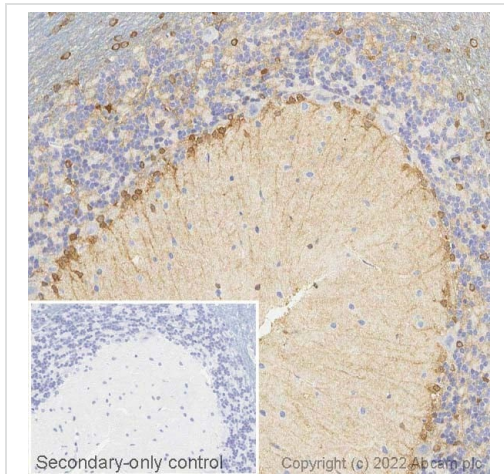
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 42 kDa

Observed band size: 42 kDa

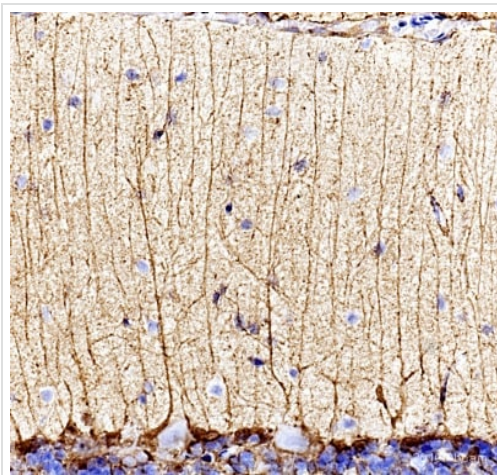
Exposure time: 30 seconds



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glutamine Synthetase antibody (ab73593)

IHC image of Glutamine Synthetase staining in a section of formalin-fixed paraffin-embedded normal rat cerebellum performed on a Leica Biosystems BOND® RX instrument. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab73593, 1 ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

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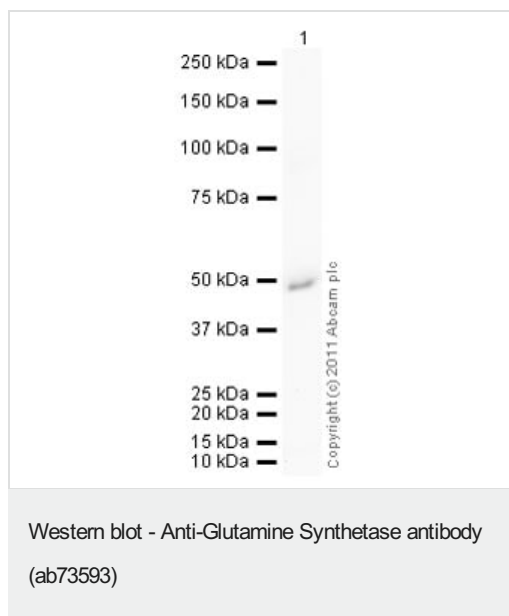


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glutamine Synthetase antibody (ab73593)

This image is courtesy of Carl Hobbs, King's College London, United Kingdom

Immunohistochemical detection of Glutamine

Synthetase on Formaldehyde-fixed paraffin-embedded rat brain sections using Glutamine Synthetase antibody (ab73593). Antigen retrieval step: Heat mediated - Buffer/Enzyme Used: Citric acid pH6 Permeabilization. Blocking: 1% BSA for 10 mins at room temperature. Primary Antibody Dilution 1/1000. Incubation time: 2 hours in TBS/BSA/azide. Secondary Antibody: anti Rabbit IgG Conjugated to biotin (1/200). In the submitted image of rat cerebellum, two very good examples are observed of the bulbous endfeet of the primary Bergmann glia primary processes connecting with the inner Pial membrane.



Anti-Glutamine Synthetase antibody (ab73593) at 1 µg/ml +
Recombinant Human Glutamine Synthetase protein (**ab98145**) at
0.01 µg

Secondary

Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP)
(**ab65484**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 42 kDa

Exposure time: 2 minutes

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