

Product datasheet

Anti-Glutamine Synthetase antibody ab64613

★★★★☆ 6 Abreviews 22 References 10 Images

Overview

Product name	Anti-Glutamine Synthetase antibody
Description	Mouse monoclonal to Glutamine Synthetase
Host species	Mouse
Tested applications	Suitable for: ELISA, WB, IHC-FoFr, IHC-Fr, Flow Cyt, Sandwich ELISA, IHC-P, ICC/IF
Species reactivity	Reacts with: Mouse, Rat, Human, Drosophila melanogaster, Zebrafish, Apterionotus leptorhynchus Predicted to work with: Horse, Chicken, Cow, Dog, Pig, Xenopus laevis, Chimpanzee, Cynomolgus monkey, Opossum, Chinese hamster
Immunogen	Recombinant fragment with tag: IEKLSKRHQY HIRAYDPKGG LDNARRLTGF HETSNINDFS AGVANRSASI RIPRTVGQEK KGYFEDRRPS ANCDPFSVTE ALIRTCLLNE TGDEPFQYKN , corresponding to amino acids 274-374 of Human Glutamine Synthetase Run BLAST with ExPASy Run BLAST with NCBI
Positive control	Jurkat whole cell lysate (ab7899).
General notes	This product was changed from ascites to tissue culture supernatant on 22/03/2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: None Constituents: PBS, pH 7.2
Purity	Tissue culture supernatant
Clonality	Monoclonal
Isotype	IgG1

Applications

Our [Abpromise guarantee](#) covers the use of **ab64613** in the following tested applications.

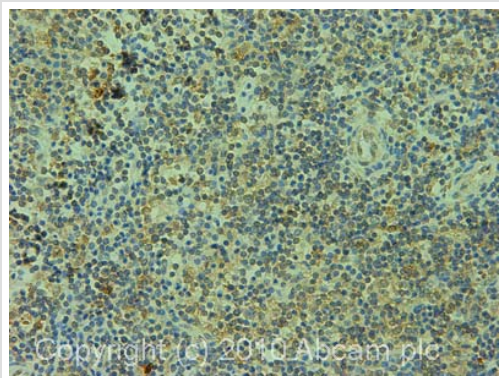
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ELISA		Use at an assay dependent concentration. In sELISA the detection limit for recombinant tagged Glutamine Synthetase is approximately 0.03ng/ml as a capture antibody.
WB	★★★★☆	Use at an assay dependent concentration. Detects a band of approximately 37 kDa (predicted molecular weight: 42 kDa).
IHC-FoFr	★★★★★	Use at an assay dependent concentration. PubMed: 23374330
IHC-Fr	★★★★☆	Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
Sandwich ELISA		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF		Use at an assay dependent concentration.

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

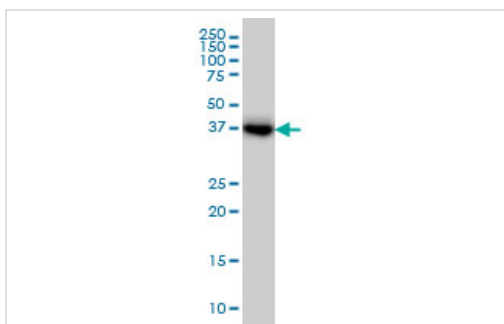


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glutamine Synthetase antibody (ab64613)

IHC image of ab64613 staining in human tonsil formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab64613, 1 µg/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.

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.

This image was generated using the ascites version of the product.



Western blot - Anti-Glutamine Synthetase antibody (ab64613)

Anti-Glutamine Synthetase antibody (ab64613) at 1 µg/ml + Jurkat cell lysate at 50 µg

Secondary

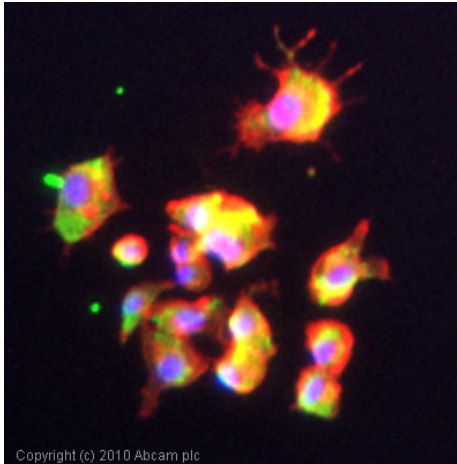
Goat Anti-Mouse IgG (H&L)-HRP at 1/2500 dilution

Predicted band size: 42 kDa

Observed band size: 37 kDa

[why is the actual band size different from the predicted?](#)

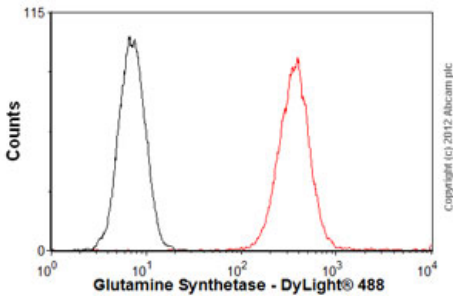
This image was generated using the ascites version of the product.



Immunocytochemistry/ Immunofluorescence - Anti-Glutamine Synthetase antibody (ab64613)

ICC/IF image of ab64613 stained PC12 cells. The cells were 100% methanol fixed (5 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab64613, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

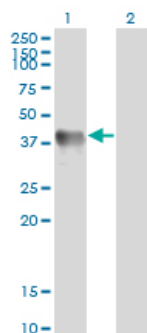
This image was generated using the ascites version of the product.



Flow Cytometry - Anti-Glutamine Synthetase antibody (ab64613)

Overlay histogram showing Jurkat cells stained with ab64613 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab64613, 1µg/1x10⁶ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10⁶ cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Jurkat cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

This image was generated using the ascites version of the product.



Western blot - Anti-Glutamine Synthetase antibody (ab64613)

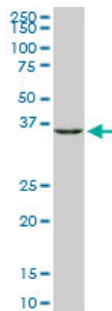
All lanes : Anti-Glutamine Synthetase antibody (ab64613)

Lane 1 : Glutamine Synthetase transfected lysate

Lane 2 : Non-transfected lysate

Predicted band size: 42 kDa

This image was generated using the ascites version of the product.

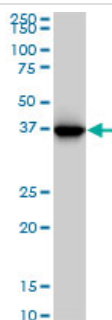


Western blot - Anti-Glutamine Synthetase antibody (ab64613)

Anti-Glutamine Synthetase antibody (ab64613) + Raw 264.7 cell line

Predicted band size: 42 kDa

This image was generated using the ascites version of the product.

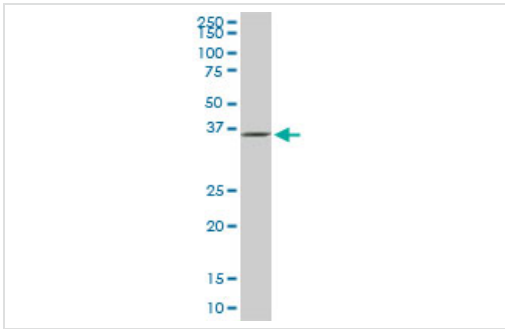


Western blot - Anti-Glutamine Synthetase antibody (ab64613)

Anti-Glutamine Synthetase antibody (ab64613) + HepG2 cell lysate

Predicted band size: 42 kDa

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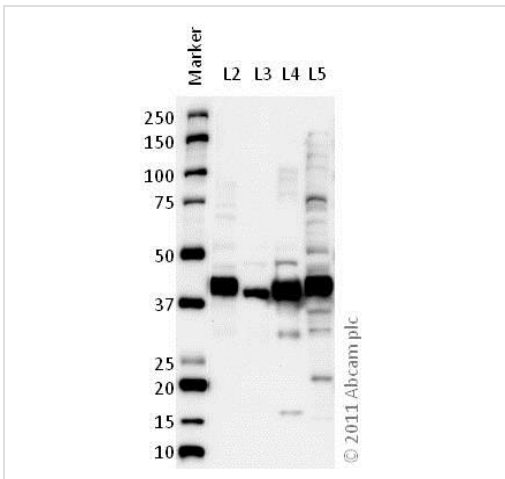


Western blot - Anti-Glutamine Synthetase antibody (ab64613)

Anti-Glutamine Synthetase antibody (ab64613) + PC-12 cell lysate

Predicted band size: 42 kDa

This image was generated using the ascites version of the product.



Western blot - Anti-Glutamine Synthetase antibody (ab64613)

All lanes : Anti-Glutamine Synthetase antibody (ab64613) at 0.5 µg/ml

Lane 1 : Marker

Lane 2 : Zebrafish brain homogenate at 20 µg

Lane 3 : Zebrafish liver homogenate at 20 µg

Lane 4 : Zebrafish skeletal muscle homogenate at 20 µg

Lane 5 : JURKAT (Human T cell lymphoblast-like cell line) whole cell lysate at 20 µg

Secondary

All lanes : Goat polyclonal to Mouse IgG – H&L – Pre-Adsorbed (HRP) at 1/6000 dilution

Developed using the ECL technique.

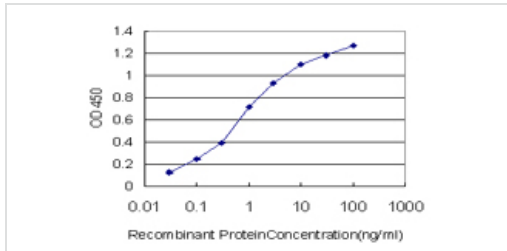
Performed under reducing conditions.

Predicted band size: 42 kDa

Observed band size: 42 kDa

Exposure time: 4 minutes

This image was generated using the ascites version of the product.



Sandwich ELISA - Anti-Glutamine Synthetase antibody (ab64613)

Detection limit for recombinant GST tagged Glutamine Synthetase is approximately 0.03ng/ml as a capture antibody.

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