




Product datasheet

# Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free ab64613

★★★★☆ [8 Abreviews](#) [41 References](#) [10 Images](#)

Overview

<b>Product name</b>	Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free
<b>Description</b>	Mouse monoclonal [3B6] to Glutamine Synthetase - BSA and Azide free
<b>Host species</b>	Mouse
<b>Tested applications</b>	<b>Suitable for:</b> WB, ICC/IF, Flow Cyt, Sandwich ELISA, IHC-P
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human, Drosophila melanogaster, Zebrafish, Recombinant fragment <b>Predicted to work with:</b> Horse, Chicken, Cow, Dog, Pig, Xenopus laevis, Chimpanzee, Cynomolgus monkey, Opossum, Chinese hamster 
<b>Immunogen</b>	Recombinant fragment corresponding to Human Glutamine Synthetase aa 274-373. Sequence:  IEKLSKRHQYHIRAYDPKGGLDNARRLTGFHETSNINDFSA GVANRSASI RIPRTVGQEKKGYFEDRRPSANCDPFSVTEALIRTCLLNET GDEPFQYKN  Database link: <a href="#">P15104</a>   <a href="#">Run BLAST with</a>  <a href="#">Run BLAST with</a>
<b>Positive control</b>	IHC-P: Human tonsil tissue. WB: Jurkat whole cell lysate; Raw 264.7 cells, HepG2 cell, PC-12, Zebrafish brain, liver, skeletal muscle homogenate ICC: PC12 cells. Flow Cyt: Jurkat cells.
<b>General notes</b>	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.  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.  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

Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
<b>Storage buffer</b>	pH: 7.4 Constituent: PBS
<b>Carrier free</b>	Yes
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	3B6
<b>Isotype</b>	IgG1

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab64613 in the following tested applications.

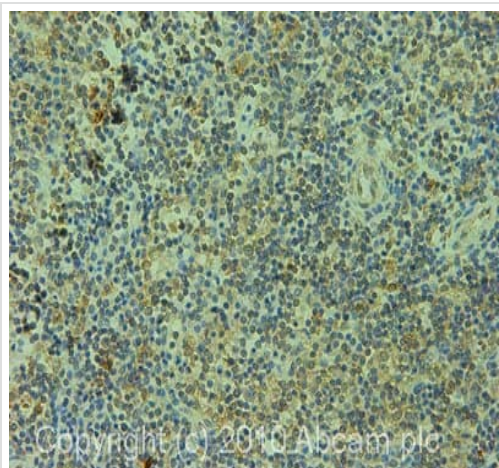
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ (2)	Use at an assay dependent concentration. Detects a band of approximately 37 kDa (predicted molecular weight: 42 kDa).
ICC/IF		Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. <b>ab170190</b> - 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.

## Target

<b>Function</b>	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.
<b>Involvement in disease</b>	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.
<b>Sequence similarities</b>	Belongs to the glutamine synthetase family.
<b>Developmental stage</b>	Expressed during early fetal stages.
<b>Cellular localization</b>	Cytoplasm. Mitochondrion.

## Images

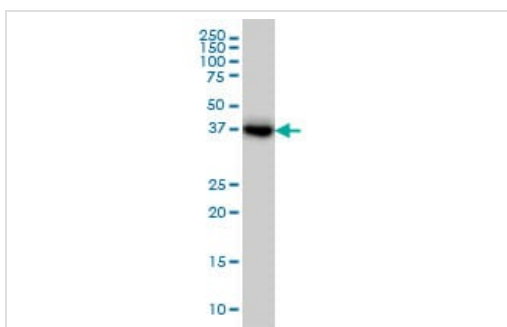


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free (ab64613)

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 [3B6] - BSA and Azide free (ab64613)

Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free (ab64613) at 1 µg/ml + Jurkat cell lysate at 50 µg

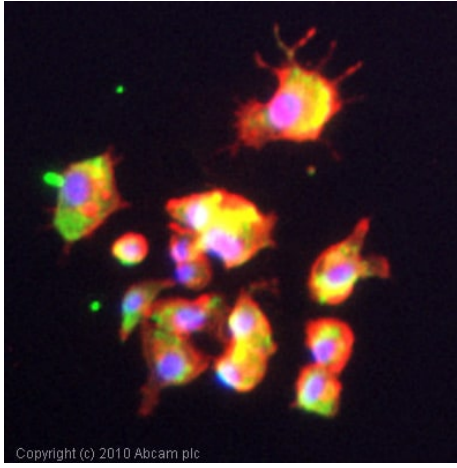
### Secondary

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

**Predicted band size:** 42 kDa

**Observed band size:** 37 kDa

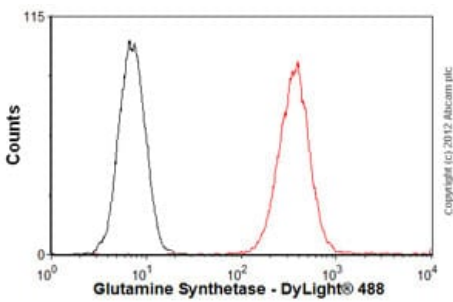
This image was generated using the ascites version of the product.



Immunocytochemistry/ Immunofluorescence - Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free (ab64613)

ICC 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.

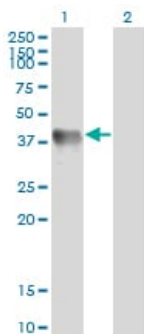
This image was generated using the ascites version of the product.



Flow Cytometry - Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free (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/1x10<sup>6</sup> 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 [CIGG1] ([ab91353](#), 2µg/1x10<sup>6</sup> 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 [3B6] - BSA and Azide free (ab64613)

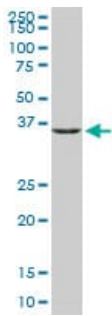
**All lanes :** Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free (ab64613)

**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.

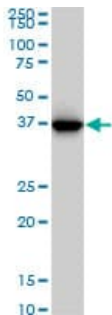


Western blot - Anti-Glutamine Synthetase antibody  
[3B6] - BSA and Azide free (ab64613)

Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free  
(ab64613) + Raw 264.7 cell line

**Predicted band size:** 42 kDa

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

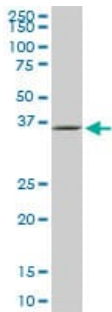


Western blot - Anti-Glutamine Synthetase antibody  
[3B6] - BSA and Azide free (ab64613)

Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free  
(ab64613) + HepG2 cell lysate

**Predicted band size:** 42 kDa

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

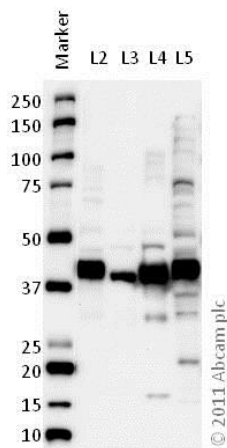


Western blot - Anti-Glutamine Synthetase antibody  
[3B6] - BSA and Azide free (ab64613)

Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free  
(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 [3B6] - BSA and Azide free (ab64613)

**All lanes :** Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free (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.

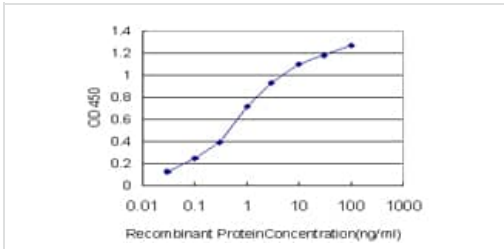
Performed under reducing conditions.

**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.



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

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

Sandwich ELISA - Anti-Glutamine Synthetase antibody [3B6] - BSA and Azide free (ab64613)

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