abcam

Product datasheet

Anti-Glucose Transporter GLUT1 antibody [SPM498] ab40084

25 Abreviews 120 References 5 Images

Overview

Product name	Anti-Glucose Transporter GLUT1 antibody [SPM498]
Description	Mouse monoclonal [SPM498] to Glucose Transporter GLUT1
Host species	Mouse
Tested applications	**Suitable for:** ICC, Flow Cyt, IHC-P
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat
Immunogen	Synthetic peptide corresponding to Human Glucose Transporter GLUT1 (C terminal). Database link: P11166
Positive control	HepG2 cells. Esophagous and breast carcinoma.
General notes	**This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.** **Abcam is committed to meeting high quality standards of ethical manufacturing and has decided to discontinue this product on 31st March 2021 as it has been generated by the ascites method. We are sorry for any inconvenience this may cause.** Previous lots of this antibody gave good results in WB as published in Abreviews. We however are observing multiple bands with recent lots. GLUT1 is a multi-pass membrane protein so we can recommend not boiling the samples in sample buffer. We will also welcome more feedback from successful users. 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

Form	Liquid

Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7.60 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Purity	Protein A/G purified
Purification notes	Purified from ascites.
Clonality	Monoclonal
Clone number	SPM498
Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee Our Abpromise guarantee covers the use of ab40084 in the following tested applications.

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

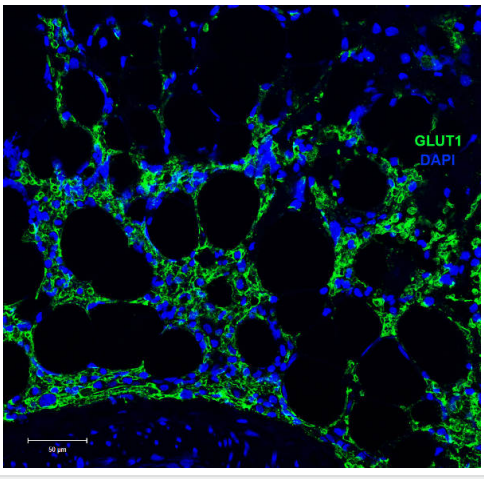
Application	Abreviews	Notes
ICC		Use at an assay dependent concentration.
Flow Cyt		Use 1µg for 10^6 cells. Methanol or paraformaldehyde fixed cells. ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.
IHC-P	★★★★★ (7)	1/200. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

Target

Function	Facilitative glucose transporter. This isoform may be responsible for constitutive or basal glucose uptake. Has a very broad substrate specificity; can transport a wide range of aldoses including both pentoses and hexoses.
Tissue specificity	Expressed at variable levels in many human tissues.
Involvement in disease	Defects in SLC2A1 are the cause of glucose transporter type 1 deficiency syndrome (GLUT1DS) [MIM:606777]; also known as blood-brain barrier glucose transport defect. This disease causes a defect in glucose transport across the blood-brain barrier. It is characterized by infantile seizures, delayed development, and acquired microcephaly. Defects in SLC2A1 are the cause of dystonia type 18 (DYT18) [MIM:612126]. DYT18 is an exercise-induced paroxysmal dystonia/dyskinesia. Dystonia is defined by the presence of sustained involuntary muscle contraction, often leading to abnormal postures. DYT18 is characterized by attacks of involuntary movements triggered by certain stimuli such as sudden movement or prolonged exercise. In some patients involuntary exertion-induced dystonic, choreoathetotic, and ballistic movements may be associated with macrocytic hemolytic anemia.
Sequence similarities	Belongs to the major facilitator superfamily. Sugar transporter (TC 2.A.1.1) family. Glucose transporter subfamily.

Post-translational modifications	Phosphorylated upon DNA damage, probably by ATM or ATR.
Cellular localization	Cell membrane. Melanosome. Localizes primarily at the cell surface (By similarity). Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

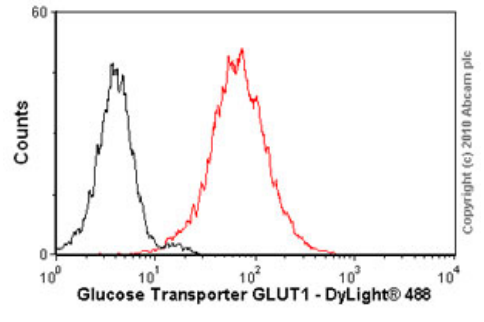
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT1 antibody [SPM498] (ab40084)

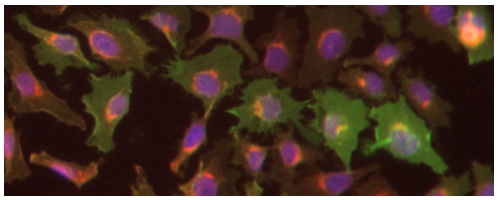
Image courtesy of an anonymous AbReview.

Immunohistochemical analysis of 10% buffered formalin-fixed paraffin-embedded human dermal carcinoma tissue sections, labelling GLUT1 with ab40084 at a dilution of 1/100 incubated for 12 hours at 4°C. Heat mediated antigen retrival was performed with 10mM sodium citrate buffer at pH 6.0. Blocking was with 5% serum incubated for 1 hour at 21°C. The secondary was a Donkey anti-mouse polyclonal Alexa Fluor® 647 conjugate at 1/200. Counterstaining is DAPI in blue against Nuclear DNA.



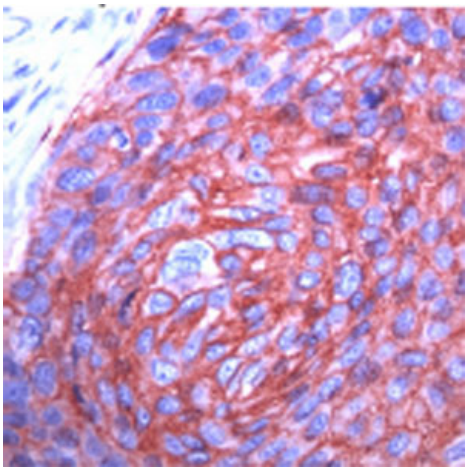
Flow Cytometry - Anti-Glucose Transporter GLUT1 antibody [SPM498] (ab40084)

Overlay histogram showing HeLa cells stained with ab40084 (red line). The cells were fixed with methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab40084, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/250 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde (10 min) used under the same conditions.



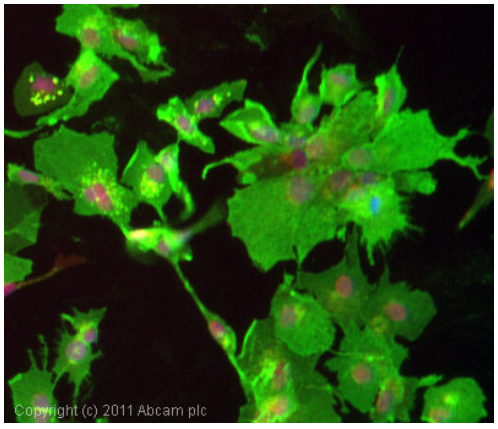
Immunocytochemistry - Anti-Glucose Transporter GLUT1 antibody [SPM498] (ab40084)

ICC/IF image of ab40084 stained HeLa cells. The cells were 4% PFA fixed (10 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 (ab40084, 1µg/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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT1 antibody [SPM498] (ab40084)

ab40084 at a 1:200 dilution staining Glucose Transporter GLUT1 in Human esophagous tissue.



Immunocytochemistry - Anti-Glucose Transporter GLUT1 antibody [SPM498] (ab40084)

ICC/IF image of ab40084 stained HepG2 cells. The cells were 4% PFA fixed (10 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 (ab40084, 5µg/ml) overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti-mouse IgG - H&L, pre-adsorbed (ab96879) used at a 1/250 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.

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