abcam

Product datasheet

Anti-Glucose Transporter GLUT1 antibody [SP168] ab150299

KO VALIDATED Recombinant RabMAb

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Overview

Product name	Anti-Glucose Transporter GLUT1 antibody [SP168]
Description	Rabbit monoclonal [SP168] to Glucose Transporter GLUT1
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, Flow Cyt (Intra), WB, IHC-P
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat, Rabbit, Chicken, Cow, Pig
Immunogen	Synthetic peptide within Human Glucose Transporter GLUT1 aa 450 to the C-terminus (C terminal). The exact sequence is proprietary. Database link: **P11166**
Positive control	IHC-P: Human lung carcinoma, and Mouse lung tissue; WB: HepG2 whole cell lysate (**ab7900**); Flow Cyt (Intra): HepG2 cells; ICC: HepG2 cells.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. **This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.**

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.60 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Purity	Protein A/G purified

Purification notes	Purified from TCS by protein A/G.
Clonality	Monoclonal
Clone number	SP168
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab150299 in the following tested applications.

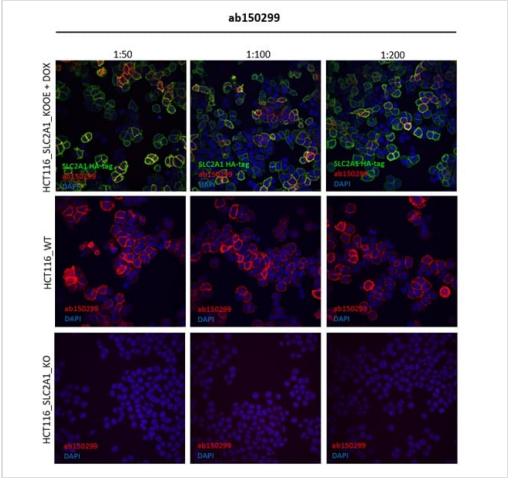
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		1/100.
Flow Cyt (Intra)		1/200.
WB	★☆☆☆☆ (1)	1/200. Predicted molecular weight: 54 kDa.
IHC-P	★★★★☆ (1)	1/200. Perform heat mediated antigen retrieval with citrate buffer pH 6 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.

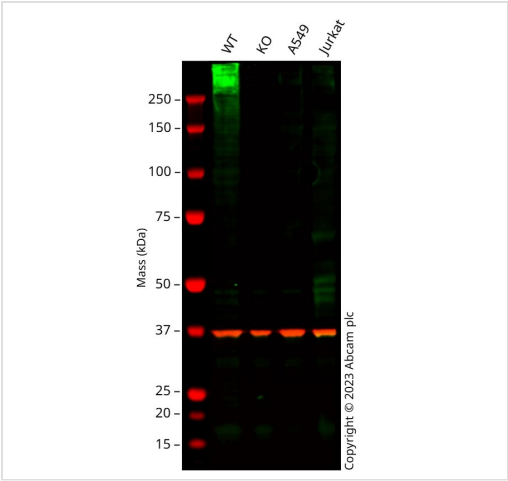
Images



Immunocytochemistry/ Immunofluorescence - Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

HCT116 WT, SLC2A1 KO were labelled with a green dye. SLC2A1 KOOE cells were labelled with a green and a red dye. SLC2A1 expression was induced with doxycycline in KOOE cells. WT and KO cells were stained with ab150299 and with Alexa-fluor 594 coupled secondary antibody. KOOE cells were stained with: i) ab150299 and with Alexa-fluor 594 coupled secondary antibody; ii) anti-HA-Tag antibody and with Alexa-fluor 488 antibody. Acquisition of the green (HA-Tag in KOOE) and red (antibody staining in WT, KO and KOOE) channels was performed. Representative images of the green and red channel are shown. The antibody used and tested dilution are as follows: ab150299 at 1/50, 1/100 and 1/200.

This image was provided, with thanks, by RESOLUTE (re-solute.eu).



Western blot - Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

All lanes : Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299) at 1/200 dilution

Lane 1 : Wild-type HepG2 cell lysate
Lane 2 : SLC2A1 knockout HepG2 cell lysate
Lane 3 : A549 cell lysate
Lane 4 : Jurkat cell lysate

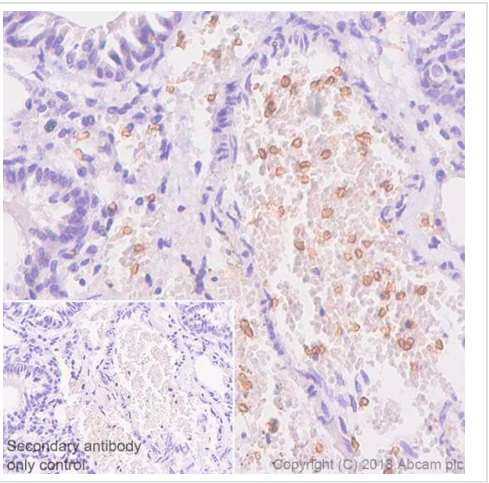
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 54 kDa
Observed band size: 50-300 kDa

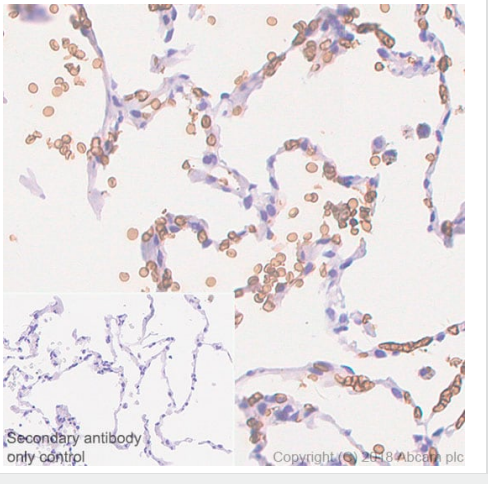
Western blot: Anti-Glucose Transporter GLUT1 antibody [SP168] staining at 1/200 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (**ab8245**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab150299 was shown to bind specifically to Glucose Transporter GLUT1. A band was observed at 50-300 kDa in wild-type HepG2 cell lysates with no signal observed at this size in SLC2A1 knockout cell line **ab280797** (knockout cell lysate **ab284224**). To generate this image, wild-type and SLC2A1 knockout HepG2 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3% milk in

TBS-0.1% Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.



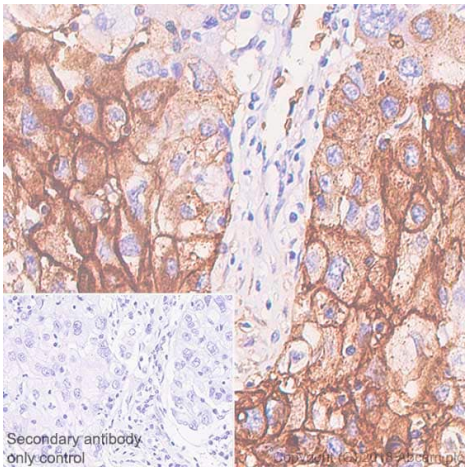
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse lung tissue sections labeling Glucose Transporter GLUT1 with ab150299 at 1/200 dilution (1.24 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



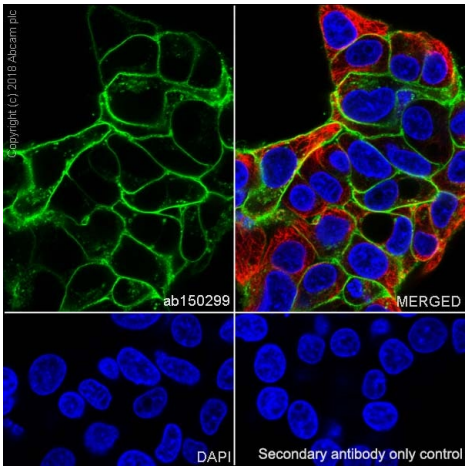
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human lung tissue sections labeling Glucose Transporter GLUT1 with ab150299 at 1/200 dilution (1.24 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



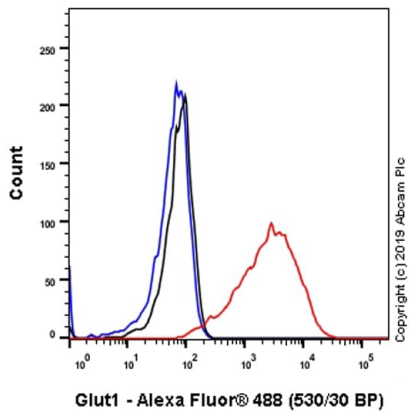
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human lung carcinoma tissue sections labeling Glucose Transporter GLUT1 with ab150299 at 1/200 dilution (1.24 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



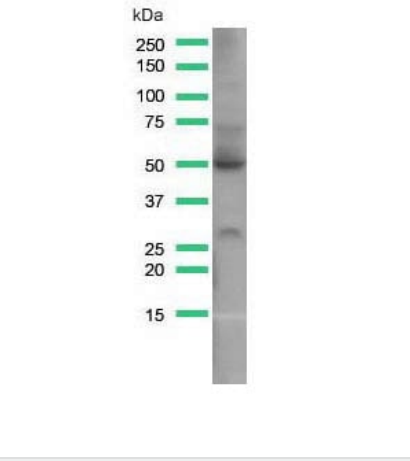
Immunocytochemistry/ Immunofluorescence - Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

Immunocytochemistry/ Immunofluorescence analysis of HepG2 (human hepatocellular carcinoma epithelial cell) cells labeling Glucose Transporter GLUT1 with purified ab150299 at 1/100 (2.5 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with **ab195889** Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

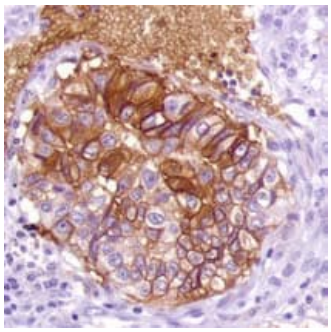
Flow Cytometry analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling Glucose Transporter GLUT1 with purified ab150299 at 1/200 dilution (1.24 µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (**ab172730**) / Black. Unlabeled control - Unlabelled cells / blue.



Western blot - Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299) at 1/200 dilution + HepG2 cell lysate

Predicted band size: 54 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

Immunohistochemical analysis of formalin fixed, paraffin embedded Human lung carcinoma tissue labelling Glucose Transporter GLUT1 with ab150299 at 1/200 dilution.

Anti-Glucose Transporter GLUT1 antibody [SP168] (ab150299)

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