Anti-Glucose Transporter GLUT1 antibody ab15309

Overview

Product name  Anti-Glucose Transporter GLUT1 antibody
Description  Rabbit polyclonal to Glucose Transporter GLUT1
Host species  Rabbit
Tested applications  Suitable for: Flow Cyt, IHC-Fr, ICC/IF, WB, IHC-P
Species reactivity  Reacts with: Rat, Human
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  HepG2 cells, esophagus and breast carcinoma.
General notes  This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.

Properties

Form  Liquid
Storage instructions  Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer  pH: 7.40
Preservative: 0.1% Sodium azide
Constituents: PBS, 1% BSA
Purity  Immunogen affinity purified
Clonality  Polyclonal
Isotype  IgG

Applications

Our Abpromise guarantee covers the use of ab15309 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
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 (ab15309)

This image is courtesy of an Abreview submitted by Heiko Locher

ab15309 staining Glucose Transporter GLUT1 (green) in Human red blood cells tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 1% BSA for 30 minutes at room temperature; antigen retrieval was by heat mediation in a citrate buffer, pH 6.0. Samples were incubated with primary antibody (1/500 in PBS-T + 1% PBS) for 12 hours. An Alexa Fluor® 488-conjugated Donkey anti-rabbit IgG polyclonal (1/500) was used as the secondary antibody. Red - autofluorescence of erythrocytes.

ab15309 staining Glucose Transporter GLUT1 in human esophagus by Immunohistochemistry (FFPE-sections).
Immunocytochemistry/Immunofluorescence - Anti-Glucose Transporter GLUT1 antibody (ab15309) 

ab15309 at a 1/100 dilution staining rat cells (neural stem cells from adult subventricular zone) by Immunocytochemistry/Immunofluorescence. The cells were incubated with the antibody for 18 hours and then bound antibody was detected using a Cy3 conjugated Goat anti-rabbit IgG (H + L). This image is courtesy of an Abreview submitted by Martin Maurer.

Immunohistochemistry (Frozen sections) - Anti-Glucose Transporter GLUT1 antibody (ab15309) 

ab15309 at 1/300 dilution staining GLUT1 in human fetal heart by immunohistochemistry (frozen sections). Sections were paraformaldehyde fixed, permeabilized in saponin 0.1% in PBS prior to blocking in 10% serum for 45 minutes at 37°C and then incubated with ab15309 for 1 hour at 37°C. Alexa fluor® 488 goat polyclonal to rabbit Ig, diluted 1/600, was used as the secondary antibody.

ICC/IF image of ab15309 stained HepG2 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 (ab15309, 1µg/ml) overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti-rabbit IgG - H&L, pre-adsorbed (ab96899) 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.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support
- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours

- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

**Terms and conditions**

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors