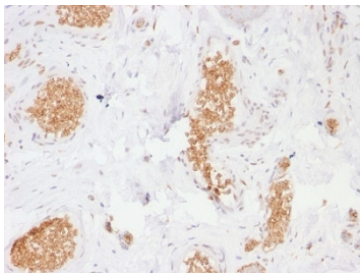
GLUT1 Immunofluorescence Antibody / SLC2A1 Glucose Transporter [clone GLUT1/2476] (V3920)

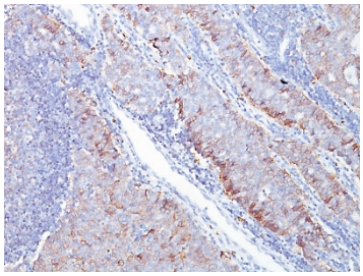
Catalog No.	Formulation	Size
V3920-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3920-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3920SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

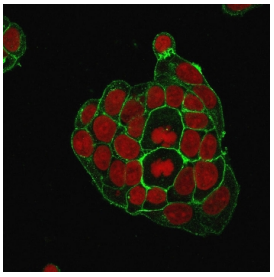
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	GLUT1/2476
Purity	Protein G affinity chromatography
UniProt	P11166
Localization	Cell surface, cytoplasm
Applications	ELISA : 1-2ug/ml for coating (order BSA/sodium azide-free format) Flow Cytometry : 1-2ug/10^6 cells Immunofluorescence : 1-2ug/ml Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This GLUT1 antibody is available for research use only.



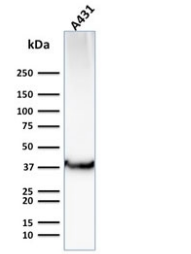
IHC testing of human bladder with GLUT1 antibody (clone GLUT1/2476). Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.



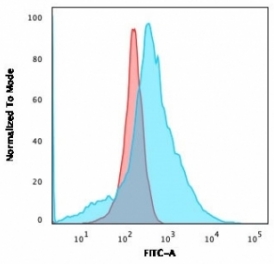
IHC testing of human breast carcinoma with GLUT1 antibody (clone GLUT1/2476). Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.



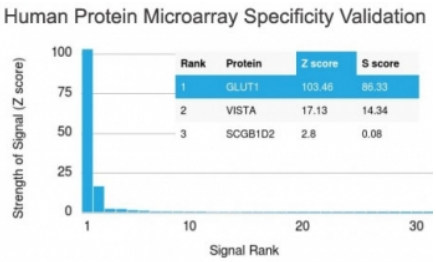
GLUT1 Immunofluorescence Antibody staining in human K562 cells. Fluorescent staining shows green signal corresponding to GLUT1 (SLC2A1) localization outlining the plasma membrane of individual cells, consistent with membrane-associated glucose transporter distribution. The membrane fluorescence delineates cell boundaries while weaker cytoplasmic fluorescent signal reflects intracellular transporter pools. Nuclei are counterstained with Reddot nuclear stain (red). Signal was detected using an immunofluorescence method and visualized by fluorescence microscopy.



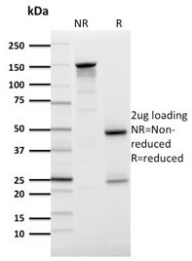
Western blot testing of human A431 cells with GLUT1 antibody (clone GLUT1/2476). Expected molecular weight: 45-55 kDa.



Flow cytometry testing of human K562 cells with GLUT1 antibody (clone GLUT1/2476); Red=isotype control, Blue= GLUT1 antibody.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using GLUT1 antibody (clone GLUT1/2476). These results demonstrate the foremost specificity of the GLUT1/2476 mAb.
Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If the targets on the HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.



SDS-PAGE analysis of purified, BSA-free GLUT1 antibody (clone GLUT1/2476) as confirmation of integrity and purity.

Description

Glucose transporter 1 (SLC2A1), commonly referred to as GLUT1, is a facilitative glucose transporter responsible for basal glucose uptake in many tissues and plays a central role in cellular energy metabolism. GLUT1 Immunofluorescence Antibody (clone GLUT1/2476) enables visualization of SLC2A1 using immunofluorescence microscopy and supports fluorescence-based analysis of glucose transporter localization in cultured cells and tissue sections. In immunofluorescence staining experiments, GLUT1 frequently appears as strong membrane-associated fluorescent signal outlining individual cells, reflecting localization of the transporter within the plasma membrane where glucose uptake occurs. Because GLUT1 is concentrated at the cell surface, immunofluorescence microscopy typically produces clear membrane fluorescence that delineates cellular boundaries together with punctate cytoplasmic fluorescence corresponding to intracellular transporter trafficking vesicles.

Immunofluorescence analysis of SLC2A1 is widely used to study glucose transporter distribution, membrane trafficking, and metabolic regulation. Fluorescence microscopy commonly reveals continuous membrane-associated fluorescent signal outlining individual cells combined with vesicular fluorescent puncta representing GLUT1 transporters cycling between intracellular compartments and the plasma membrane. These vesicular fluorescent structures reflect dynamic transporter trafficking pathways that regulate glucose uptake. Confocal immunofluorescence microscopy further resolves GLUT1 localization along the plasma membrane and within intracellular vesicles, enabling high-resolution analysis of glucose transporter organization and subcellular localization.

GLUT1 immunofluorescence staining is also frequently used in co-localization experiments with plasma membrane markers, endosomal proteins, or metabolic signaling regulators to investigate transporter trafficking and membrane dynamics. Fluorescent labeling of GLUT1 therefore enables visualization of membrane transporter distribution and intracellular vesicle trafficking pathways associated with glucose transport regulation. Because GLUT1 expression is often elevated in metabolically active cells and many tumor cell populations, immunofluorescence staining of SLC2A1 is widely used to examine metabolic adaptation and transporter redistribution in cancer biology and hypoxia-associated signaling pathways.

In addition to immunofluorescence imaging applications, antibody specificity for clone GLUT1/2476 has been evaluated using large-scale human protein microarray screening platforms. Protein microarray analysis enables testing of antibody binding against thousands of full-length human proteins simultaneously, allowing assessment of target selectivity across the proteome. In these assays, strong preferential binding of the antibody to SLC2A1 relative to other proteins supports the specificity of this reagent for detecting GLUT1. Such large-scale protein microarray specificity testing provides an additional layer of validation for immunofluorescence studies by demonstrating selective recognition of the intended glucose transporter target.

GLUT1 Immunofluorescence Antibody (clone GLUT1/2476) therefore supports fluorescence microscopy-based visualization of SLC2A1 and enables detailed examination of plasma membrane localization, intracellular transporter trafficking, and metabolic transporter distribution in cultured cells. Immunofluorescence imaging using a GLUT1 antibody typically reveals membrane fluorescence outlining individual cells together with punctate cytoplasmic fluorescent vesicles corresponding to transporter trafficking compartments, providing a powerful tool for studying glucose transporter localization, cellular metabolism, and glucose uptake pathways.

Application Notes

Optimal dilution of the GLUT1 Immunofluorescence Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 203-305 from the human protein was used as the immunogen for this GLUT1 Immunofluorescence Antibody.

Storage

Store the GLUT1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

SLC2A1 antibody, Glucose transporter 1 antibody, GLUT-1 antibody, Erythrocyte glucose transporter antibody