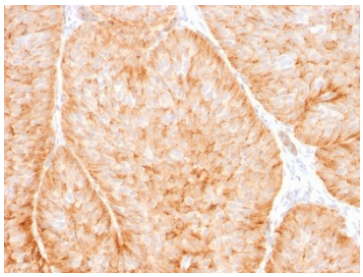
GLUT1 Antibody Protein Microarray Validated / SLC2A1 Glucose Transporter [clone GLUT1/2475] (V3919)

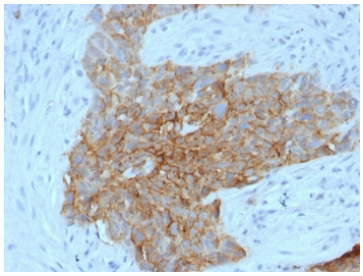
Catalog No.	Formulation	Size
V3919-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3919-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3919SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

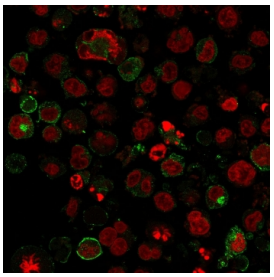
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	GLUT1/2475
Purity	Protein G affinity chromatography
UniProt	P11166
Localization	Cell surface, cytoplasm
Applications	ELISA: 1-2ug/ml for coating (order BSA/sodium azide-free format) Flow cytometry: 1-2ug/million 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.



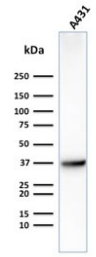
GLUT1 Antibody Protein Microarray Validated clone GLUT1/2475 immunohistochemistry analysis in human bladder carcinoma tissue. FFPE human bladder carcinoma section shows strong HRP-DAB brown membranous and cytoplasmic staining in tumor epithelial cells, consistent with GLUT1 (SLC2A1) localization in metabolically active cancer cell populations with elevated glucose uptake. Tumor cell nests display prominent membrane-associated staining while surrounding stromal regions show minimal background signal. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9, 10 mM Tris with 1 mM EDTA for 10-20 minutes followed by cooling at room temperature prior to antibody staining.



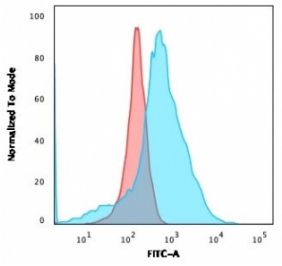
IHC testing of human tongue with GLUT1 antibody (clone GLUT1/2475). Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.



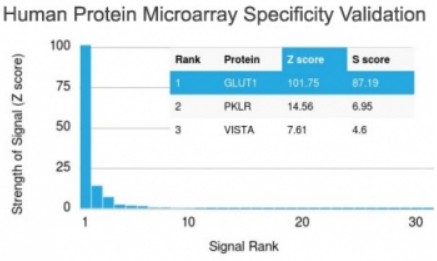
GLUT1 Antibody Protein Microarray Validated clone GLUT1/2475 immunofluorescence staining in human K562 cells. Fluorescent staining shows green signal corresponding to GLUT1 (SLC2A1) localization outlining the plasma membrane and cytoplasmic vesicular structures consistent with glucose transporter distribution in metabolically active cells. Membrane-associated fluorescence highlights cell boundaries while punctate cytoplasmic signal reflects intracellular transporter trafficking. Nuclei are counterstained with Reddot nuclear stain (red), and signal was detected using an immunofluorescence method and visualized by fluorescence microscopy.



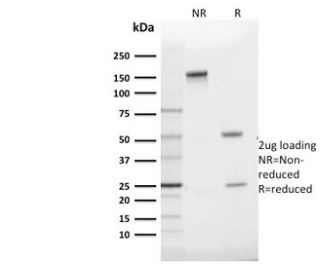
Western blot testing of human A431 cells with GLUT1 antibody (clone GLUT1/2475). Expected molecular weight: 45-55 kDa.



Flow cytometry testing of human K562 cells with GLUT1 antibody (clone GLUT1/2475); Red=isotype control, Blue= GLUT1 antibody.



GLUT1 Antibody Protein Microarray Validated (clone GLUT1/2475) specificity analysis using the HuProt human protein microarray platform. The HuProt array contains more than 19,000 full-length human proteins and enables large-scale evaluation of antibody binding across the human proteome. In this assay, clone GLUT1/2475 shows the strongest signal for GLUT1 (SLC2A1), indicating highly selective target recognition relative to other proteins present on the array. Z-score represents the strength of antibody binding to a specific protein expressed as standard deviations above the mean signal of the entire array, while the S-score represents the difference between the top-ranked Z-score and the next highest signal, providing a measure of antibody target specificity. High Z-score and S-score values for GLUT1 demonstrate strong preferential binding and support the specificity of clone GLUT1/2475 for detecting the GLUT1 glucose transporter.



SDS-PAGE analysis of purified, BSA-free GLUT1 antibody (clone GLUT1/2475) as confirmation of integrity and purity.

Description

Glucose transporter 1 (SLC2A1), commonly known 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 Antibody Protein Microarray Validated (clone GLUT1/2475) recognizes the SLC2A1 protein and has undergone large-scale human protein microarray specificity testing to support selective detection of the GLUT1 glucose transporter. Protein microarray validation platforms enable antibody binding to be evaluated across thousands of full-length human proteins simultaneously, providing a proteome-wide assessment of antibody selectivity and helping confirm that the reagent preferentially recognizes its intended target protein.

GLUT1 is primarily localized to the plasma membrane where it mediates facilitated diffusion of glucose into cells, allowing tissues to maintain energy production through glycolysis and oxidative metabolism. Because glucose transport is essential for cellular energy balance, SLC2A1 expression is widely observed in tissues requiring constant glucose supply such as erythrocytes, endothelial cells, and metabolically active epithelial cell populations. Investigation of GLUT1 distribution therefore provides insight into cellular metabolism, glucose transport regulation, and membrane transporter biology.

In many tumor types, GLUT1 expression is frequently increased as part of metabolic reprogramming associated with rapid cell proliferation and adaptation to hypoxic microenvironments. Upregulation of SLC2A1 supports enhanced glucose uptake and glycolytic metabolism, which are characteristic features of many cancer cells. As a result, GLUT1 is widely studied in cancer metabolism research and is often evaluated when investigating metabolic signaling pathways and cellular responses to hypoxia or metabolic stress.

Protein microarray specificity validation provides an important layer of antibody characterization by testing binding interactions against thousands of proteins in parallel. In these large-scale microarray assays, antibodies are incubated with arrays containing extensive collections of full-length human proteins, allowing measurement of signal strength and assessment of relative target specificity. Strong preferential binding of clone GLUT1/2475 to SLC2A1 compared with other proteins supports the specificity of the antibody for detecting the GLUT1 glucose transporter.

GLUT1 Antibody Protein Microarray Validated (clone GLUT1/2475) therefore provides a research reagent supported by proteome-scale specificity testing. Protein microarray validation data strengthen confidence that the antibody selectively

recognizes SLC2A1, supporting studies of glucose transporter expression, cellular metabolism, and metabolic adaptation in normal physiology and disease research.

Application Notes

Optimal dilution of the GLUT1 Antibody Protein Microarray Validated clone GLUT1/2475 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 Antibody Protein Microarray Validated clone GLUT1/2475.

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

Copyright © NSJ Bioreagents. All rights reserved.