abcam

BECKMAN COULTER

ab326117

SNv428 Anti-Glucose Transporter GLUT1 antibody [EPR3915]

Rabbit Recombinant Monoclonal GLUT1 antibody - conjugated to SNv428. Suitable for Flow Cyt (Intra) and reacts with Human samples.

This is a Beckman Coulter product distributed by Abcam

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	SNv428
Excitation/Emission	Ex: 405nm, Em: 428nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 0.2% BSA, 0.02% Pluronic F-68
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR3915
Purification technique	Affinity purification Protein A
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
Notes	Use of the SuperNova Staining Buffer (ab327075) is recommended when your multicolor staining cocktail contains more than one SuperNova/polymer dye antibody conjugate.

Target data

See full target information SLC2A1

Function	Facilitative glucose transporter, which is responsible for constitutive or basal glucose uptake (PubMed:10227690, PubMed:10954735, PubMed:18245775, PubMed:19449892, PubMed:25982116, PubMed:27078104, PubMed:32860739). Has a very broad substrate specificity; can transport a wide range of aldoses including both pentoses and hexoses (PubMed:18245775, PubMed:19449892). Most important energy carrier of the brain: present at the blood-brain barrier and assures the energy-independent, facilitative transport of glucose into the brain (PubMed:10227690). In association with BSG and NXNL1, promotes retinal cone survival by increasing glucose uptake into photoreceptors (By similarity). Required for mesendoderm differentiation (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

This is a Beckman Coulter product distributed by Abcam.

The SuperNova dye included in this product is provided under an intellectual property license from Beckman Coulter Life Sciences. As this product contains the SuperNova dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity).

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The Glucose Transporter GLUT1 also known as SLC2A1 is an important protein responsible for the transport of glucose across cell membranes. The GLUT1 transporter has a molecular weight of approximately 55 kDa. This protein is highly expressed in erythrocytes endothelial cells lining blood vessels and in the blood-brain barrier. Its primary role is to facilitate the basal glucose uptake necessary for cellular metabolism particularly in tissues where glucose is a critical energy source.
Biological function summary	This glucose transporter plays a significant role in maintaining glucose homeostasis in the human body. GLUT1 functions independently and not as part of a complex. It ensures that glucose is available to cells with high metabolic demands including the brain and red blood cells where it remains important for survival and function. Its expression level can be influenced by various factors including hypoxia and insulin.
Pathways	GLUT1 is involved in the glycolysis and hypoxia-related pathways. It supports the glycolytic pathway by ensuring a sufficient supply of glucose to the cells which is then metabolized to produce ATP. Additionally during hypoxic conditions GLUT1 expression can increase aligning with proteins like HIF-1α which helps cells adapt by modifying their metabolism. This coordinated regulation permits cells to adjust their energy systems according to the oxygen availability.
Associated diseases and disorders	GLUT1 is implicated in glucose transporter type 1 deficiency syndrome (GLUT1 DS) and various forms of cancer. GLUT1 DS results from inadequate glucose transport into the brain presenting neurological symptoms due to energy deficiency. In cancer overexpression of GLUT1 links to increased glucose uptake and tumor growth a condition known to involve proteins like hexokinase. These associations

underline GLUT1's contribution to both genetic defects and metabolic shifts in cancerous tissues.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

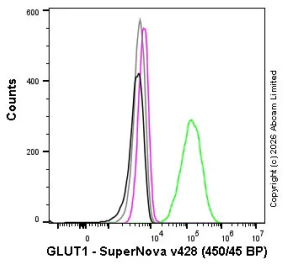
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

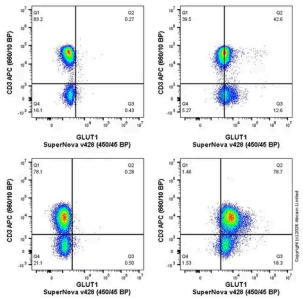
2 product images



Flow Cytometry (Intracellular) - SNv428 Anti-Glucose Transporter GLUT1 antibody [EPR3915] (ab326117)

Glucose Transporter GLUT1 Flow Cytometry (Intracellular) staining of flow cyt: a-549 wt using rabbit Anti-Glucose Transporter GLUT1 antibody

Flow cytometry overlay histogram showing wild-type A-549 (green line) and SLC2A1 knockout A-549 stained with ab326117 (magenta line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab326117) (1x 106 in 100µl at 0.2 µg/ml (1/1000)) for 30min at 22°C.Unstained control in A-549 WT cells (black line) and A-549-SLC2A1 KO cells (grey line) was also included. Acquisition of >5000 events were collected using a 100 mW Violet laser (405nm) and 450/45 bandpass filter. This antibody gave a positive signal in wild-type A-549 fixed with 80% methanol (5 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min under the same conditions.This data was acquired using a Beckman Coulter CytoFlexLX flow cytometer.



Flow Cytometry (Intracellular) - SNv428 Anti-Glucose Transporter GLUT1 antibody [EPR3915] (ab326117)

Glucose Transporter GLUT1 Flow Cytometry (Intracellular) staining of flow cyt: hu pbmc using rabbit Anti-Glucose Transporter GLUT1 antibody

Flow cytometry scatter plots showing untreated human peripheral mononuclear cells (PBMCs) (top) and PBMCs activated with 5 µg/ml PHA for 18h (bottom), either stained with ab326117 (right) or FMO control (left). The cells were fixed and permeabilised using BD CytoFix/CytoPerm™ (20 min). The cells were incubated in 1x PBS containing 10 µg/ml human IgG, 10% normal goat serum and BD Pharmingen™ MonoBlock™ Leukocyte Staining Buffer (1/10) to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab326117) (1x 106 in 100µl at 0.2 µg/ml (1/1000)) for 30min on ice. The cells were simultaneously stained with CD3. Acquisition of >30000 events were collected using a 100 mW Violet laser (405nm) and 450/45 bandpass filter.This data was acquired using a Beckman Coulter CytoFlexLX flow cytometer.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.