abcam

ab210438

Alexa Fluor® 405 Anti-Glucose Transporter GLUT1 antibody [EPR3915]

Anti-Glucose Transporter GLUT1 antibody [EPR3915] - Alexa Fluor® 405 conjugated (ab210438) is a rabbit recombinant monoclonal antibody detecting Glucose Transporter GLUT1 in **Flow Cytometry (Intra)**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 405
Excitation/Emission	Ex: 401nm, Em: 421nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
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	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	SNv428 Anti-Glucose Transporter GLUT1 antibody [EPR3915] ab326117 is a brighter alternative to this product.

Expected

Species	Mouse
Dilution info	-
Notes	SNv428 Anti-Glucose Transporter GLUT1 antibody [EPR3915] ab326117 is a brighter alternative to this product.

Species	Rat
Dilution info	-
Notes	SNv428 Anti-Glucose Transporter GLUT1 antibody [EPR3915] ab326117 is a brighter alternative to this product.

ICC/IF

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse, Rat, Mouse, Rat
Dilution info	-
Notes	-

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	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

What is this antibody validated in?
Alexa Fluor® 405 Anti-Glucose Transporter GLUT1 antibody [EPR3915] (ab210438) is a rabbit recombinant monoclonal antibody and is validated for use in Flow Cytometry (Intra), Flow Cytometry (Flow Cyt) in Human samples.

Reviewed by scientists
Anti-Glucose Transporter GLUT1 [EPR3915] Alexa Fluor® 405 (ab210438) has over 5 independent reviews from customers.

Related products
Antibody clone EPR3915 is also available pre-conjugated to a variety of labels for your convenience – Anti-Glucose Transporter GLUT1 Alexa Fluor® 405 [EPR3915] (ab210438).

Other related products
We have a range of other formats of antibody clone [EPR3915] also available for your convenience: ab115730, Alexa Fluor® 647 - ab195020, HRP - ab195021, Alexa Fluor® 488 - ab195359, Carrier free - ab196357, Alexa Fluor® 594 - ab206360, PE - ab209449, Alexa Fluor® 405 - ab210438, Carrier free - ab252403, APC - ab316298, FITC - ab322306, Biotin - ab323677

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.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® 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). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

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

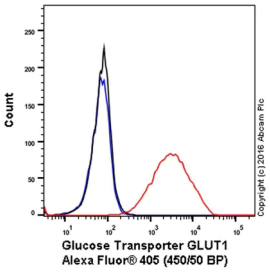
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Flow Cytometry (Intracellular) - Alexa Fluor® 405 Anti-Glucose Transporter GLUT1 antibody [EPR3915] (ab210438)

Glucose Transporter GLUT1 Flow Cytometry (Intracellular) staining using rabbit Anti-Glucose Transporter GLUT1 antibody

Overlay histogram showing HepG2 cells stained with ab210438 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min, blocked with Image-iT® FX Signal Enhancer for 30 min at 22°C and then blocked with 1x PBS / 10% normal goat serum for 1 hr at 22°C. Cells were then incubated with the antibody (ab210438, 1/50 dilution) for 30 min at 22°C.
Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 405 (ab208150) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50mW violet laser (405nm) and 450/50 bandpass filter.

This antibody gave a positive signal in HepG2 cells fixed with 4% formaldehyde (10 min)/permeabilized with 0.1% PBS-Triton X-100 for 15 min used under the same conditions.

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