abcam

ab216661

Anti-Glucose Transporter GLUT4 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Proclin 300 Constituents: 50% Glycerol (glycerin, glycerine), 48.98% TBS, 1X, 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human SLC2A4 aa 450 to C-terminus conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link P14672
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/100 - 1/1000
Notes	-

Expected

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

IHC-P

Tested

Species	Rat
Dilution info	1/100 - 1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information SLC2A4

Function	Insulin-regulated facilitative glucose transporter, which plays a key role in removal of glucose from circulation. Response to insulin is regulated by its intracellular localization: in the absence of insulin, it is efficiently retained intracellularly within storage compartments in muscle and fat cells. Upon insulin stimulation, translocates from these compartments to the cell surface where it transports glucose from the extracellular milieu into the cell.

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

Supplementary info

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

Activity summary	Glucose transporter GLUT4 also known as GLUT-4 or GLUT 4 transporter plays an important role in glucose uptake in cells. It is an insulin-responsive class I facilitated glucose transporter. GLUT4 predominantly expresses in insulin-sensitive tissues such as adipose tissue and skeletal and cardiac muscles. The functional transport mechanism facilitates glucose entry into the cell by translocating from intracellular vesicles to the plasma membrane in response to insulin stimulation. The molecular weight of GLUT4 is about 50 kDa and this property is often observed in techniques such as GLUT4 western blot where it aids in the identification of the transporter.
Biological function summary	GLUT4 helps regulate blood sugar levels through its control over glucose uptake in muscle and adipose tissues. As an important component of the insulin-regulated glucose transport system GLUT4 responds to increased insulin levels by moving to the cell's surface aiding in glucose transportation into the cell. This adaptive response reduces blood glucose concentration after food intake. GLUT4 operates largely independently but may interact with other glucose transporters like GLUT1 to maintain normal cellular glucose homeostasis.
Pathways	GLUT4 plays a significant role in the insulin signaling pathway and glucose homeostasis. Activation of the insulin receptor triggers a signaling cascade that includes enzymes like Akt (protein kinase B) which facilitates the translocation of

	GLUT4 vesicles to the plasma membrane. This translocation is important for glucose entry into the cells. Other key proteins in this pathway include IRS (insulin receptor substrate) proteins which act as signaling intermediates to link insulin receptor activation to downstream targets like GLUT4. Its activity is central to the maintenance of energy balance and storage in the body.
Associated diseases and disorders	GLUT4 is closely associated with conditions like type 2 diabetes and obesity. Impaired GLUT4 function or expression can lead to decreased insulin sensitivity and glucose uptake contributing to the hyperglycemic state found in type 2 diabetes. Additionally obesity often presents a parallel decline in GLUT4 activity exacerbating insulin resistance. The regulation of GLUT4 is influenced by proteins such as insulin receptor and IRS proteins which when dysfunctional contribute to the pathogenesis of these metabolic disorders.

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

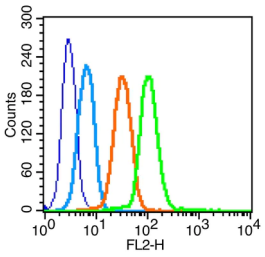
We do not recommend this combination. It is not covered by our product promise.

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.

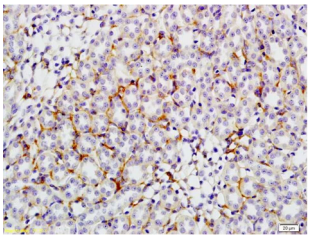
2 product images



Flow Cytometry (Intracellular) - Anti-Glucose Transporter GLUT4 antibody (ab216661)

Glucose Transporter GLUT4 Flow Cytometry (Intracellular) staining using rabbit Anti-Glucose Transporter GLUT4 antibody

Intracellular Flow Cytometry of K562 cells with ab203387 at 1/100



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT4 antibody (ab216661)

Glucose Transporter GLUT4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Glucose Transporter GLUT4 antibody

Immunohistochemical analysis of formalin-fixed, paraffin-embedded rat kidney tissue labeling Glucose Transporter GLUT4 with ab216661 at 1/200 dilution followed by conjugation to the secondary antibody and DAB staining.

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