abcam

ab85715

Anti-Glucose Transporter GLUT2 antibody [5D1]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.4 Constituents: PBS, 5% Trehalose
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing SLC2A2 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P11168
Clone number	5D1
Purification technique	Affinity purification Protein G
Specificity	ab85715 recognizes Glucose Transporter GLUT2 expression on hGlut2-transfected NS0 cells but not on control transfectants. Detects Glut2 on the surface of the Human intestinal cell line Caco2 in flow cytometry and on fixed cells in immunocytochemistry tests. Based on flow cytometric tests on transfected cells, this antibody has no cross-reactivity with hGlut1 or hGlut3.
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	0.5 µg for 10^6 Cells

Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

IHC-P

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Target data

See full target information SLC2A2

Function	Facilitative hexose transporter that mediates the transport of glucose, fructose and galactose (PubMed:16186102, PubMed:23396969, PubMed:28083649, PubMed:8027028, PubMed:8457197). Likely mediates the bidirectional transfer of glucose across the plasma membrane of hepatocytes and is responsible for uptake of glucose by the beta cells; may comprise part of the glucose-sensing mechanism of beta cells (PubMed:8027028). May also participate with the Na(+)/glucose cotransporter in the transcellular transport of glucose in the small intestine and kidney (PubMed:3399500). Also able to mediate the transport of dehydroascorbate and urate (PubMed:23396969, PubMed:40209957).

Storage

Shipped at conditions	Blue Ice
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	The glucose transporter GLUT2 also referred to as GLUT 2 GLUT-2 or GLUT2 transporter plays an important role in the movement of glucose across cell membranes. Mechanically it acts as a facilitative transporter allowing glucose and other monosaccharides to enter and exit cells. GLUT2 has a molecular weight of about 55 kDa. High expression of GLUT2 occurs in the liver pancreas kidney and intestines where it facilitates bidirectional glucose transport to maintain glucose balance.
Biological function summary	The role of this transporter is important for glucose sensing and regulation. It is not part of any known complex but operates efficiently as a single unit within its membrane environment. In the pancreas GLUT2 detects blood glucose levels and initiates insulin release from beta cells. In the liver it enables glucose uptake during periods of high blood glucose and facilitates glucose production when blood glucose levels drop. By performing these functions GLUT2 helps maintain glucose homeostasis in the body.
Pathways	GLUT2 is an essential component of glucose homeostasis and nutrient sensing pathways. It links to the insulin signaling pathway by facilitating insulin secretion in response to increased blood glucose. Furthermore GLUT2 associates with kinases such as AMPK which modulate cellular energy balance. The synergistic activity between GLUT2 and insulin signaling pathways highlights its central role in metabolic processes.
Associated diseases and disorders	Altered GLUT2 function has significant implications. Mutations or deficiencies in GLUT2 can lead to conditions like Fanconi-Bickel syndrome a rare glycogen storage disorder. This transporter has been connected to diabetes as well due to its involvement in insulin secretion regulation. In both these instances GLUT2 interacts with other proteins such as glucokinase in the pancreas and liver highlighting its importance in disease pathology.

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.

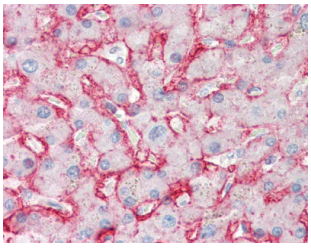
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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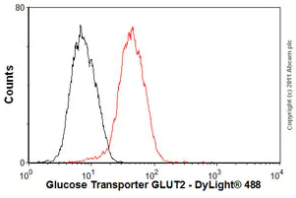
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT2 antibody [5D1] (ab85715)

Glucose Transporter GLUT2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Glucose Transporter GLUT2 antibody

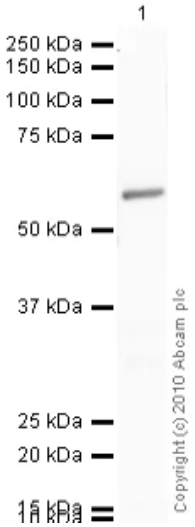
ab85715, at 10 µg/ml, staining Glucose Transporter GLUT2 in formalin-fixed, paraffin-embedded human Liver tissue by Immunohistochemistry.



Flow Cytometry - Anti-Glucose Transporter GLUT2 antibody [5D1] (ab85715)

Glucose Transporter GLUT2 Flow Cytometry staining using mouse Anti-Glucose Transporter GLUT2 antibody

Overlay histogram showing HepG2 cells stained with ab85715 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab85715, 0.5µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HepG2 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Western blot - Anti-Glucose Transporter GLUT2 antibody [5D1] (ab85715)

Glucose Transporter GLUT2 Western blot staining of Human pancreas tissue lysate - total protein (ab29816) using mouse Anti-Glucose Transporter GLUT2 antibody

All lanes:
Western blot - Anti-Glucose Transporter GLUT2 antibody [5D1] (ab85715) at 1 µg/mL

All lanes:
Human pancreas tissue lysate - total protein (ab29816) at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 57 kDa

Observed band size: 57 kDa

Exposure time: 8min

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