abcam

ab260003

Anti-Glucose Transporter GLUT2 antibody [EPR22946-74] - BSA and Azide free

Recombinant | RabMAb | Advanced Validation

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR22946-74
Purification technique	Affinity purification Protein A
Concentration	1.04 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

mIHC

Tested

Species	Human
Dilution info	-

Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human
Dilution info	-
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	+4°C
Storage information	Do Not Freeze

Notes

ab260003 is the carrier-free version of ab234440.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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.

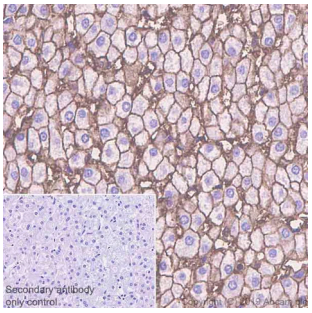
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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6 product images



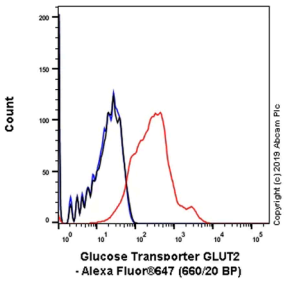
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT2 antibody [EPR22946-74] - BSA and Azide free (ab260003)

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

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling Glucose Transporter GLUT2 with ab234440 at 1/500 dilution (1.07 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous staining on human liver (PMID/ 30374065). The section was incubated with ab234440 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control/ Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab234440).

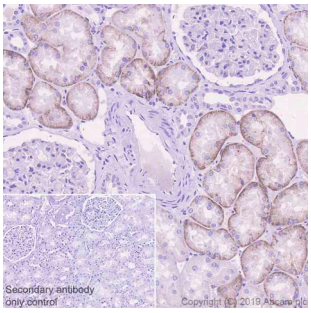


Flow Cytometry - Anti-Glucose Transporter GLUT2 antibody [EPR22946-74] - BSA and Azide free (ab260003)

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

Flow cytometric analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labelling Glucose Transporter GLUT2 with ab234440 at 1/500 dilution (Red) as compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor® 647, ab150079) at 1/2000 dilution was used as the secondary antibody.
Gated on viable cells.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab234440).



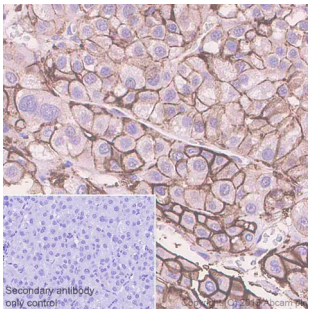
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT2 antibody [EPR22946-74] - BSA and Azide free (ab260003)

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

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling Glucose Transporter GLUT2 with ab234440 at 1/500 dilution (1.07 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human renal tubules. The section was incubated with ab234440 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control/ Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab234440).



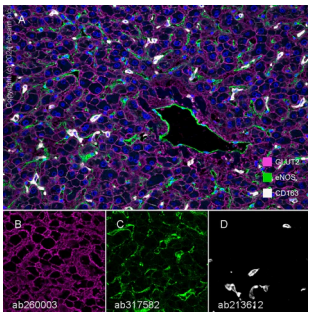
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose Transporter GLUT2 antibody [EPR22946-74] - BSA and Azide free (ab260003)

Immunohistochemical analysis of paraffin-embedded Human hepatocellular carcinoma tissue labeling Glucose Transporter GLUT2 with ab234440 at 1/500 dilution (1.07 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous staining on human hepatocellular carcinoma (PMID/ 30374065). The section was incubated with ab234440 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control/ Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab234440).



Multiplex immunohistochemistry - Anti-Glucose Transporter GLUT2 antibody [EPR22946-74] - BSA and Azide free (ab260003)

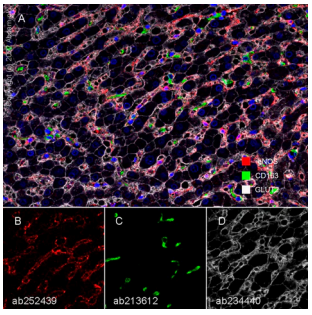
Glucose Transporter GLUT2 Multiplex immunohistochemistry staining of human liver using rabbit Anti-Glucose Transporter GLUT2 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver labelling GLUT2 with ab260003 at 1/1000 (B), eNOS with ab317582 at 1/500 dilution (C) and CD163 with ab213612 at 1/8000 dilution (D). Opal Polymer HRP Ms + Rb was used as a secondary antibody, and Nuclear DNA was labeled with DAPI (shown in blue). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

Panel A: merged staining of anti-GLUT2 (magenta; Opal™690), anti-eNOS (green; Opal™520) and anti-CD163 (gray; Opal™570) on human liver.
Panel B: anti-GLUT2 staining membrane of hepatocytes in human liver.
Panel C: anti-eNOS staining endothelium in human liver.
Panel D: anti-CD163 staining Kupffer cells in human liver.

The section was incubated in three rounds of staining: in the order of ab260003, ab317582 and ab213612 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Multiplex immunohistochemistry - Anti-Glucose Transporter GLUT2 antibody [EPR22946-74] - BSA and Azide free (ab260003)

Fluorescence multiplex immunohistochemical analysis of human liver (formalin-fixed paraffin-embedded section). Panel A shows merged staining of anti-eNOS stained on endothelial cells (ab252439; red; Opal™570) at 1:1000 (1.004 µg/ml) [Panel B], anti-CD163 stained on Kupffer cells (ab213612; green; Opal™520) at 1:8000 (0.13 µg/ml) [Panel B], and anti-Glucose Transporter GLUT2 stained on membrane of hepatocytes (ab234440; gray; Opal™690) at 1:200 (3.005 µg/ml) [Panel D] on human liver. DAPI was used as a nuclear counter stain. Followed by Opal Polymer HRP Ms + Rb secondary. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope. The section was incubated in three rounds of staining: in the order of ab234440, ab213612, and ab252439 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins was used. This data was developed using ab234440, the same antibody clone in a different buffer formulation.

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