abcam

ab248023

Anti-SLC22A3/OCT3 antibody [EPR6630] - BSA and Azide free

Recombinant RabMAb

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	EPR6630
Purification technique	Affinity purification Protein A
Specificity	We recommend using un-boiled sample to run WB tests. This antibody was found to have cross reactivity with SLC22A2 family member.
Dissociation constant	4.75 x 10^{-11} M
Concentration	0.995 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information SLC22A3

Function

Electrogenic voltage-dependent transporter that mediates the transport of a variety of organic cations such as endogenous bioactive amines, cationic drugs and xenobiotics (PubMed:10196521, PubMed:10966924, PubMed:12538837, PubMed:17460754, PubMed:20858707). Cation cellular uptake or release is driven by the electrochemical potential, i.e. membrane potential and concentration gradient (PubMed:10966924). Functions as a Na(+)- and Cl(-)-independent, bidirectional uniporter (PubMed:12538837). Implicated in monoamine

neurotransmitters uptake such as dopamine, adrenaline/epinephrine, noradrenaline/norepinephrine, histamine, serotonin and tyramine, thereby supporting a role in homeostatic regulation of aminergic neurotransmission in the brain (PubMed:10196521, PubMed:16581093, PubMed:20858707). Transports dopaminergic neuromodulators cyclo(his-pro) and salsolinol with low efficiency (PubMed:17460754). May be involved in the uptake and disposition of cationic compounds by renal clearance from the blood flow (PubMed:10966924). May contribute to regulate the transport of cationic compounds in testis across the blood-testis-barrier (Probable). Mediates the transport of polyamine spermidine and putrescine (By similarity). Mediates the bidirectional transport of polyamine agmatine (PubMed:12538837). Also transports guanidine (PubMed:10966924). May also mediate intracellular transport of organic cations, thereby playing a role in amine metabolism and intracellular signaling (By similarity).

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

ab248023 is the carrier-free version of ab124826.

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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 SLC22A3 protein also known as OCT3 or organic cation transporter 3 is involved in the transport of organic cations across cell membranes. It functions as a polyspecific transporter allowing it to transport a wide range of substrates including neurotransmitters and drugs. SLC22A3 has a molecular mass of approximately 61 kDa and is expressed in various tissues most notably in the brain heart and liver.
Biological function summary	SLC22A3 facilitates the uptake of monoamines such as dopamine and norepinephrine into cells influencing neurotransmitter signaling and metabolism. The protein is not part of a known complex but interacts with cellular transport mechanisms. The transport capabilities impact cellular uptake processes affecting cell signaling and homeostasis.
Pathways	SLC22A3 participates in neurotransmitter reuptake and drug metabolism pathways. Within these pathways it collaborates with transport proteins such as SLC6A4 which is responsible for serotonin uptake. SLC22A3's role in monoamine reuptake connects it to pathways regulating mood and cognitive function.
Associated diseases and disorders	SLC22A3 links to conditions such as depression and cardiovascular diseases. Variations in its gene expression or function influence susceptibility to these conditions. In depression SLC22A3 interacts with neurotransmitter systems shared with proteins like monoamine oxidase affecting mood regulation. In cardiovascular diseases SLC22A3's expression in the heart plays a part in transporting drugs and endogenous compounds potentially impacting disease progression.

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

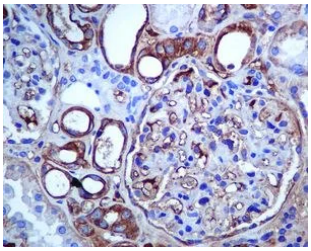
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images

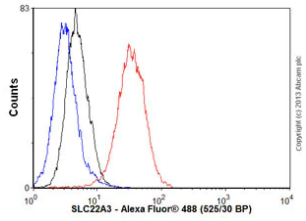


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SLC22A3/OCT3 antibody [EPR6630] - BSA and Azide free (ab248023)

SLC22A3/OCT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SLC22A3/OCT3 antibody

This data was developed using ab124826, the same antibody clone in a different buffer formulation.
ab124826, at 1/100 dilution, staining SLC22A3/OCT3 in paraffin-embedded Human kidney tissue by Immunohistochemistry.

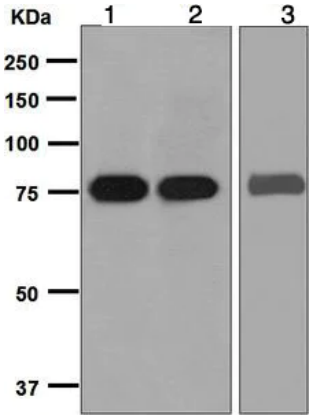
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-SLC22A3/OCT3 antibody [EPR6630] - BSA and Azide free (ab248023)

SLC22A3/OCT3 Flow Cytometry (Intracellular) staining using rabbit Anti-SLC22A3/OCT3 antibody

This data was developed using ab124826, the same antibody clone in a different buffer formulation.
Overlay histogram showing JEG3 cells stained with ab124826 (red line). The cells were fixed with 80% methanol (5 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 (ab124826, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Western blot - Anti-SLC22A3/OCT3 antibody [EPR6630] - BSA and Azide free (ab248023)

SLC22A3/OCT3 Western blot staining using rabbit Anti-SLC22A3/OCT3 antibody

This data was developed using ab124826, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-SLC22A3/OCT3 antibody [EPR6630] (ab124826) at 1/10000 dilution

Lane 1:
Human fetal kidney tissue lysate at 10 µg

Lane 2:
Human muscle tissue lysate at 10 µg

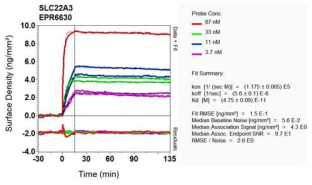
Lane 3:
Human placenta tissue lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 61 kDa

Observed band size: 80 kDa



OI-RD Scanning - Anti-SLC22A3/OCT3 antibody [EPR6630] - BSA and Azide free (ab248023)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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