abcam

ab302706

Anti-MCT8 antibody [EPR26257-174]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR26257-174
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

IP

Tested

Species	Rat
Dilution info	1/30
Notes	-

Species	Mouse

Dilution info	1/30
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/50
Notes	-

Species	Mouse
Dilution info	1/50
Notes	-

Expected

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

ICC/IF

Tested

Species	Rat
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500

Notes	-

Expected

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

IHC-Fr

Tested

Species	Rat
Dilution info	1/100
Notes	-

Species	Mouse
Dilution info	1/100
Notes	-

Expected

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

IHC-P

Tested

Species	Rat
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/5000

Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

WB

Tested

Species	Rat
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information SLC16A2

Function	Specific thyroid hormone transmembrane transporter, that mediates both uptake and efflux of thyroid hormones across the cell membrane independently of pH or a Na(+) gradient. Major substrates are the iodothyronines T3 and T4 and to a lesser extent rT3 and 3,3-diiodothyronine (3,3'-T2) (PubMed:16887882, PubMed:18337592, PubMed:20628049, PubMed:23550058, PubMed:26426690, PubMed:27805744, PubMed:31436139). Acts as an important mediator of thyroid hormone transport, especially T3, through the blood-brain barrier (Probable) (PubMed:28526555).

Storage

Shipped at conditions	Conditional Ambient
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

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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.

Supplementary info

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

Activity summary	MCT 8 also known as monocarboxylate transporter 8 is a protein important for transporting thyroid hormones across cell membranes. This transporter has a mass of approximately 61 kDa. MCT 8 is widely expressed in various tissues including the brain liver and kidneys with a significant presence in neurons. This transporter plays an important mechanical role in hormone regulation by facilitating the cellular uptake and efflux of triiodothyronine (T3) and thyroxine (T4) critical components for proper cellular function.
Biological function summary	MCT 8 serves a significant role in maintaining normal thyroid hormone levels within cells affecting development and metabolism. It does not act alone but

	operates as part of a cooperative network with other transporters and receptors to ensure precise hormonal balance. Its activity impacts processes like energy generation and usage as well as nervous system development. MCT 8's ability to mediate hormone access to target tissues highlights its importance in these biological processes.
Pathways	MCT 8 is intricately involved in the thyroid hormone signaling pathway. This pathway influences diverse metabolic and developmental outcomes. MCT 8 works closely with other proteins such as thyroid hormone receptor alpha (THRA) that also bind and respond to thyroid hormones. The synchronization between MCT 8 and these proteins ensures effective communication and function within the hormonal axis impacting metabolic regulation and growth.
Associated diseases and disorders	MCT 8 mutations connect strongly to Allan-Herndon-Dudley syndrome a rare neurodevelopmental disorder. This condition arises from disrupted thyroid hormone transport leading to developmental and cognitive deficiencies. Patients typically exhibit reduced T3 levels in the brain. In this context MCT 8's relationship with proteins like THRA reveals how perturbations in hormone transport can cascade into broader physiological abnormalities.

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

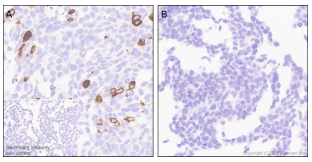
We do not recommend this combination. It is not covered by our product promise.

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.

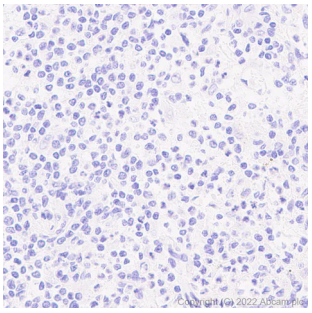
Full details and terms and conditions can be found here:
Terms & Conditions.

15 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCT8 antibody [EPR26257-174] (ab302706)

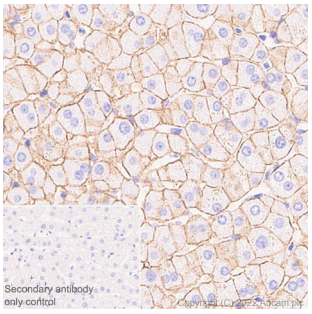
Immunohistochemical analysis of paraffin-embedded (A) HEK293T cells co tissue labeling MCT 8 with ab302706 at 1/5000 (0.101 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining in (A) HEK293T cells co-transfected with a MCT8 expression vector containing a his tag and no staining in (B) HEK-293T cells transfected with empty vector containing a his tag. The section was incubated with ab302706 for 30 mins at room. temperature. 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 solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCT8 antibody [EPR26257-174] (ab302706)

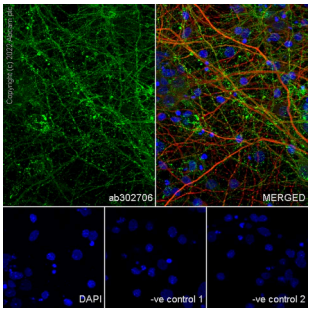
MCT8 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human spleen using rabbit Anti-MCT8 antibody

Immunohistochemical analysis of paraffin-embedded Human spleen tissue labeling MCT 8 with ab302706 at 1/2000 (0.252 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Negative control: no staining in human spleen. The section was incubated with ab302706 for 30 mins at room temperature. 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 solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCT8 antibody [EPR26257-174] (ab302706)

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling MCT 8 with ab302706 at 1/2000 (0.252 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous staining in human liver (PMID:19641107, PMID:12871948). The section was incubated with ab302706 for 30 mins at room temperature. 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 solution2) for 20 mins

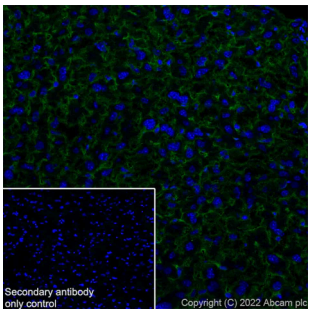


Immunocytochemistry/ Immunofluorescence - Anti-MCT8 antibody [EPR26257-174] (ab302706)

MCT8 Immunocytochemistry/ Immunofluorescence staining of rat primary neuron using rabbit Anti-MCT8 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized rat primary neuron cells labelling MCT 8 with ab302706 at 1/500 (1.006 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing positive staining in rat primary neuron.Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection is observed. ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 4 ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only

control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.

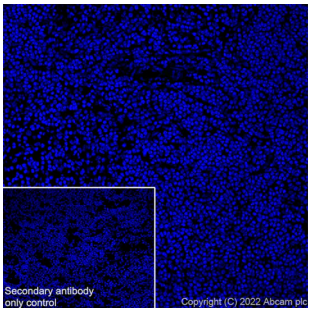


Immunohistochemistry (Frozen sections) - Anti-MCT8 antibody [EPR26257-174] (ab302706)

MCT8 Immunohistochemistry (Frozen sections) staining of Mouse liver (fresh) using rabbit Anti-MCT8 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse liver (fresh) tissue labeling MCT 8 with ab302706 at 1/100 (5.03 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green). Positive staining on mouse liver is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 ug/mL dilution.

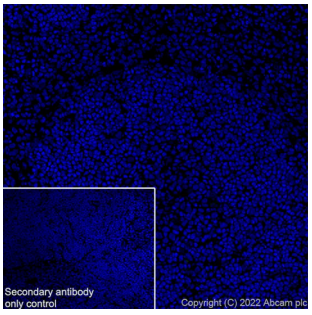


Immunohistochemistry (Frozen sections) - Anti-MCT8 antibody [EPR26257-174] (ab302706)

MCT8 Immunohistochemistry (Frozen sections) staining of Mouse spleen (fresh) using rabbit Anti-MCT8 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse spleen (fresh) tissue labeling MCT 8 with ab302706 at 1/100 (5.03 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green). Negative control: no staining on mouse spleen (PMID: 25409824). is observed. The nuclear counterstain was DAPI (Blue).

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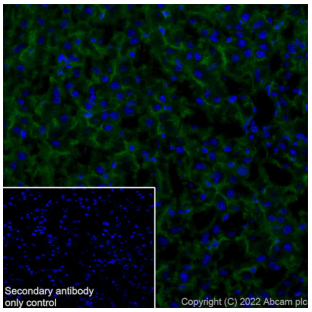


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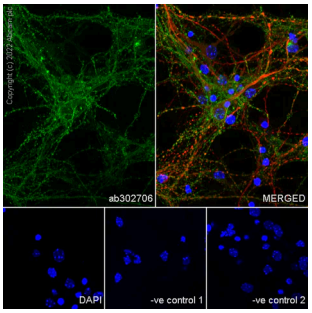


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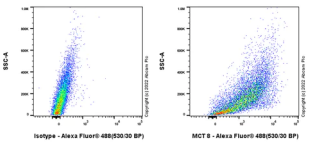
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Immunocytochemistry/ Immunofluorescence - Anti-MCT8 antibody [EPR26257-174] (ab302706)

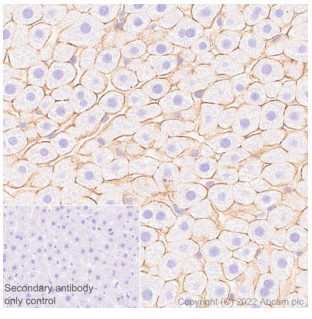
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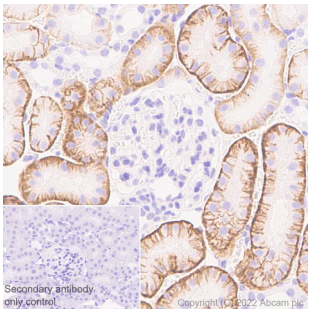
Flow Cytometry (Intracellular) - Anti-MCT8 antibody [EPR26257-174] (ab302706)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Mouse primary neural/glia cell cells labelling MCT 8 with ab302706 at 1/50 dilution (1ug)/ Right (Red) compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



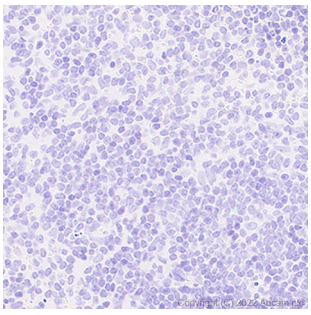
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCT8 antibody [EPR26257-174] (ab302706)

Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling MCT 8 with ab302706 at 1/5000 (0.101 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous staining in rat liver ((PMID:19641107, PMID:12871948). The section was incubated with ab302706 for 30 mins at room temperature. 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 solution2) for 20 mins



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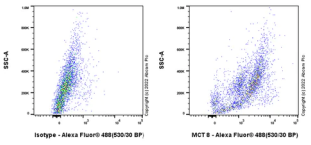
Immunohistochemical analysis of paraffin-embedded Mouse kidney tissue labeling MCT 8 with ab302706 at 1/5000 (0.101 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous staining in mouse kidney (PMID: 19641107, PMID: 19996182). The section was incubated with ab302706 for 30 mins at room temperature. 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 solution2) for 20 mins



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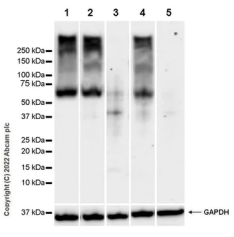
MCT8 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse spleen using rabbit Anti-MCT8 antibody

Immunohistochemical analysis of paraffin-embedded Mouse spleen tissue labeling MCT 8 with ab302706 at 1/5000 (0.101 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Negative control: no staining in mouse spleen (PMID: 9545634). The section was incubated with ab302706 for 30 mins at room temperature. 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 solution2) for 20 mins



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Western blot - Anti-MCT8 antibody [EPR26257-174] (ab302706)

Blocking and diluting buffer and concentration: 5% NFDM/TBST Samples are non-boiled as boiling may cause protein aggregates. Negative control: spleen (PMID:9545634) Exposure time: Lane 1: 48 seconds Lane 2-5: 81 seconds
All lanes:
Western blot - Anti-MCT8 antibody [EPR26257-174] (ab302706) at 1/1000 dilution

Lane 1:
Mouse kidney tissue lysate 20 µg

Lane 2:
Mouse liver tissue lysate 20 µg

Lane 3:
Mouse spleen tissue lysate 20 µg

Lane 4:

Rat liver tissue lysate 20 µg

Lane 5:
Rat spleen tissue lysate 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 60 kDa

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