abcam

ab303514

Anti-MFI2/MTf antibody [EPR27232-23]

Recombinant | RabMAb | KO Validated | 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	EPR27232-23
Purification technique	Affinity purification Protein A
Concentration	0.454 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

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

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

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

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/5000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information MELTF

Function	Involved in iron cellular uptake. Seems to be internalized and then recycled back to the cell membrane. Binds a single atom of iron per subunit. Could also bind zinc.

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

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.

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.

Supplementary info

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

Activity summary	MFI2/MTf also known as melanotransferrin or p97 is a membrane-associated glycoprotein with a mass of approximately 70 kDa. This target is expressed in various tissues including marmoset breast tissue and is notably abundant in the brain and skin. MFI2/MTf exhibits a pivotal role at the cell surface where it interacts with transferrin receptors and heparan sulfate proteoglycans. Although associated with iron metabolism it does not bind iron directly but plays a part in the cellular uptake of iron.
Biological function summary	MFI2/MTf participates in cellular processes related to growth and development. It is involved in promoting cell proliferation and migration and its expression is upregulated in several cancers indicating a possible role in tumor growth. MFI2/MTf does not form a part of a larger known complex but interacts with other molecules at the cell surface that influence its activity. Researchers consider it an important marker for both physiological growth and pathological conditions like malignancies.

Pathways	MFI2/MTf functions as an important player in the iron homeostasis and MAPK signaling pathways. It interacts with proteins such as the transferrin receptor and various growth factor receptors. These interactions contribute to pathways governing cellular proliferation and survival. Its engagement in these pathways suggests that MFI2/MTf is important for maintaining cellular functions that rely on iron metabolism and signal transduction which are critical in both normal and disease states.
Associated diseases and disorders	MFI2/MTf has associations with melanoma and neurodegenerative conditions such as Alzheimer's disease. In melanoma it integrates into mechanisms involving other proteins like metalloproteinases enhancing invasive capabilities. In neurodegenerative contexts an aberrant expression or altered function of MFI2/MTf might contribute to pathological processes potentially involving interactions with amyloid precursor proteins. These connections highlight the significance of MFI2/MTf in understanding and possibly targeting these 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

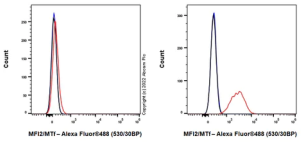
We do not recommend this combination. It is not covered by our product promise.

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.

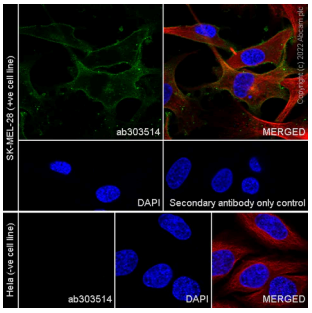
Full details and terms and conditions can be found here:
Terms & Conditions.

7 product images



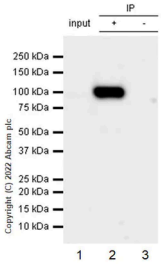
Flow Cytometry - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514)

Flow cytometric analysis of / fixed / permeabilized HeLa (human cervix adenocarcinoma epithelial cell, Left) / SK-MEL-28 (human malignant melanoma, Right) cells labelling MFI2/MTf with ab303514 at 1/5000 dilution (0.01ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) 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. Gated on viable cells.Negative control: HeLa (PMID: 33965973).



Immunocytochemistry/ Immunofluorescence - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SK-MEL-28 (human malignant melanoma cell) cells labelling MFI2/MTf with ab303514 at 1/50 (9.08 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing mainly membranous staining in SK-MEL-28 cell line.Negative control: Hela.Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/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 2ug/ml dilution.



Immunoprecipitation - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514)

MFI2/MTf was immunoprecipitated from 0.35 mg SK-MEL-28 (human malignant melanoma cell) whole cell lysate with ab303514 at 1/30 dilution (2 µg in 0.35 mg lysates). Western blot was performed on the immunoprecipitate using ab303514 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/5000 dilution.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514) at 1/30 dilution

Lane 1:
SK-MEL-28 (human malignant melanoma cell) whole cell lysate (Inset) at 10 µg

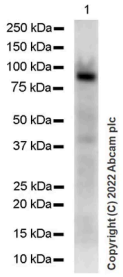
Lane 2:
ab303514 IP in SK-MEL-28 whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 80 kDa

Exposure time: 32s



Western blot - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514)

Blocking and diluting buffer and concentration: 5% NFDM/TBST
This blot was developed using a high sensitivity ECL substrate. The high-sensitivity ECL substrate used allows for the detection of proteins in the mid-femtogram range.

All lanes:
Western blot - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514) at 1/1000 dilution

All lanes:
Saos-2 (human osteosarcoma epithelial cell), whole cell lysate at 20 µg

Secondary

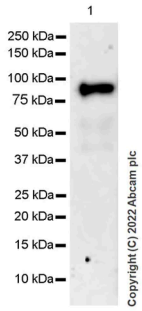
All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Developed using the ECL technique.

Predicted band size: 80 kDa

Observed band size: 97 kDa

Exposure time: 103s



Western blot - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514)

Blocking and Diluting buffer and concentration: 5% NFDM/TBST

Negative control: HeLa (PMID: 33965973)

All lanes:
Western blot - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514) at 1/1000 dilution

All lanes:
His-tagged human MFI2/MTf recombinant protein 10 ng

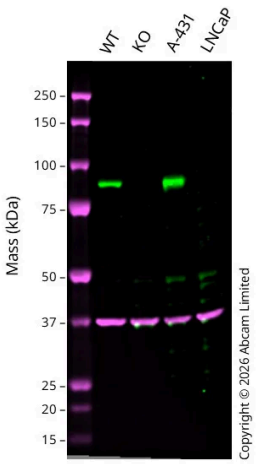
Secondary

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

Predicted band size: 80 kDa

Observed band size: 97 kDa

Exposure time: 180s



Western blot - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514)

MFI2/MTf Western blot staining using rabbit Anti-MFI2/MTf antibody

Western blot: Anti-MFI2/MTf antibody [EPR27232-23] ab303514 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 80 kDa in Wild-type A549 cell lysates with no signal observed at this size in MELTF knockout A549 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514) at 1/1000 dilution

Lane 1:
Wild-type A549 not boiled cell lysates at 20 µg

Lane 2:
MELTF knockout A549 not boiled cell lysates at 20 µg

Lane 3:
A431 not boiled cell lysates at 20 µg

Lane 4:
LNCaP not boiled cell lysates at 20 µg

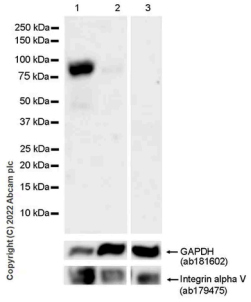
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 80 kDa

Observed band size: 80 kDa



Western blot - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Negative control: HeLa (PMID: 33965973)

All lanes:
Western blot - Anti-MFI2/MTf antibody [EPR27232-23] (ab303514) at 1/1000 dilution

Lane 1:
SK-MEL-28 (human malignant melanoma cell) membrane fraction 20 µg

Lane 2:
SK-MEL-28 cytoplasmic fraction 20 µg

Lane 3:
HeLa (human cervical adenocarcinoma epithelial cell), whole cell lysate 20µg

Secondary

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

Predicted band size: 80 kDa

Observed band size: 97 kDa

Exposure time: 59s

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