abcam

ab278504

Anti-Transferrin antibody [EPR18240-29] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR18240-29
Purification technique	Affinity purification Protein A
Concentration	0.944 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	-

Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Target data

See full target information Tf

Function Transferrins are iron binding transport proteins which can bind two Fe(3+) ions in association with the binding of an anion, usually bicarbonate. It is responsible for the transport of iron from sites of absorption and heme degradation to those of storage and utilization. Serum transferrin may also have a further role in stimulating cell proliferation.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

Please note: Clone [EPR18240-29] (this product) is different to that of ab277635 [EPR20149-224] for the same target. ab278504 is the carrier-free version of ab278498.

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	Transferrin also known as serotransferrin or siderophilin is a glycoprotein with a mass of approximately 80 kDa. It is primarily synthesized in the liver and subsequently secreted into the bloodstream. Transferrin has an important role in iron transport and maintains iron homeostasis by binding and delivering iron to various tissues throughout the body. It can bind two ferric ions (Fe3+) in association with an anion usually bicarbonate. In biological fluids transferrin exists in serum plasma and other extracellular fluids.
Biological function summary	Transferrin facilitates the transportation of iron ions. It delivers iron to cells by binding to transferrin receptors on cell surfaces forming a complex that gets internalized via receptor-mediated endocytosis. Inside the endosomes acidic conditions cause iron to release from transferrin enabling its utilization in cellular processes like DNA synthesis and electron transport. Transferrin itself acts independently and does not form part of a larger protein complex. Variants of transferrin include mouse transferrin bovine transferrin and biotinylated transferrin each with similar function across different species.
Pathways	Transferrin operates centrally in iron metabolism and homeostasis pathways. It functions in coordination with the transferrin receptor 1 (TfR1) which facilitates cellular uptake of the transferrin-iron complex. Additionally transferrin plays a role in the hepcidin regulatory pathway. Hepcidin modulates iron homeostasis by decreasing iron absorption in the intestine and controlling iron release from macrophages and hepatocytes. Transferrin's ability to bind iron connects it to other iron-containing proteins such as ferritin which stores excess iron in cells.

Associated diseases and disorders

Several iron-related conditions can impact transferrin function including anemia and hemochromatosis. Anemia often occurs when there is insufficient iron delivery leading to inadequate hemoglobin synthesis and reduced oxygen transport. Aberrant transferrin receptor activity affects iron uptake in such conditions. Hemochromatosis characterized by iron overload can occur due to mutations in genes like HFE leading to changes in hepcidin regulation and increased intestinal iron absorption. Transferrin levels and saturation are clinical indicators used to assess iron status in such diseases.

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

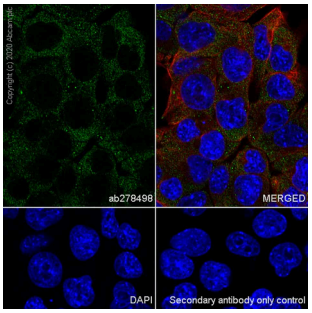
We do not recommend this combination. It is not covered by our product promise.

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



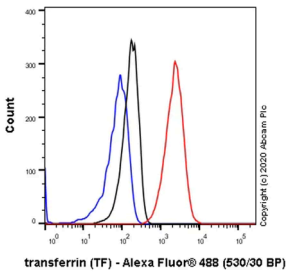
Immunocytochemistry/ Immunofluorescence - Anti-Transferrin antibody [EPR18240-29] - BSA and Azide free (ab278504)

Transferrin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Transferrin antibody

This data was developed using ab278498, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Hepa1-6 cells labelling Transferrin with ab278498 at 1/100 (5.52 µg/ml) dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green).

Confocal image showing cytoplasmic staining in Hepa1-6 cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

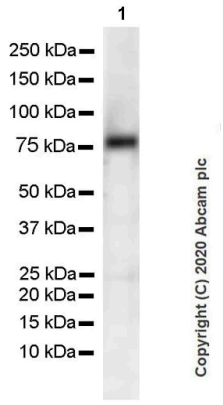
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-Transferrin antibody [EPR18240-29] - BSA and Azide free (ab278504)

Transferrin Flow Cytometry (Intracellular) staining using rabbit Anti-Transferrin antibody

This data was developed using ab278498, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Hepa1-6 (Mouse hepatoma epithelial cell) cells labelling Transferrin with ab278498 at 1/500 dilution (0.1ug) (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, ab150077) at 1/2000 dilution was used as the secondary antibody.



Western blot - Anti-Transferrin antibody [EPR18240-29] - BSA and Azide free (ab278504)

Transferrin Western blot staining of Mouse plasma using rabbit Anti-Transferrin antibody

This data was developed using ab278498, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST

Exposure time: 10 seconds.

All lanes:
Western blot - Anti-Transferrin antibody [EPR18240-29] - Serum Loading Control (ab278498) at 1/1000 dilution

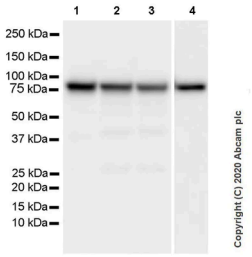
All lanes:
Mouse plasma at 20 µL

Secondary

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

Predicted band size: 77 kDa

Observed band size: 76 kDa



Western blot - Anti-Transferrin antibody [EPR18240-29] - BSA and Azide free (ab278504)

Transferrin Western blot staining using rabbit Anti-Transferrin antibody

This data was developed using ab278498, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST

Exposure time: Lane 1-3: 3.25 seconds; Lane 4: 70 seconds

All lanes:
Western blot - Anti-Transferrin antibody [EPR18240-29] - Serum Loading Control (ab278498) at 1/1000 dilution

Lane 1:
Mouse liver tissue lysate at 20 µg

Lane 2:
Mouse kidney tissue lysate at 20 µg

Lane 3:
Mouse testis tissue lysate at 20 µg

Lane 4:
Hepa1-6 (mouse hepatoma epithelial cell), whole cell lysate at 20 µg

Secondary

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

Predicted band size: 77 kDa

Observed band size: 76 kDa

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