abcam

ab277685

Anti-Transferrin antibody [EPR24383-68] - BSA and Azide free (Detector)

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	EPR24383-68
Purification technique	Affinity purification Protein A
Concentration	1.036 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

sELISA

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/5000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, 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. (Microbial infection) Serves as an iron source for Neisseria species, which capture the protein and extract its iron for their own use. (Microbial infection) Serves as an iron source for parasite T.brucei (strain 427), which capture TF via its own transferrin receptor ESAG6:ESAG7 and extract its iron for its own use.

Storage

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

Appropriate long-term storage conditions	+4°C

Notes

ab277685 is a BSA and Azide Free antibody supplied in an unconjugated format and it is suitable for sandwich ELISAs to quantify Human TF. The recommended pair for sandwich ELISA is:
Capture: ab277684, Human TF Capture Antibody (unconjugated)
Detector: ab277685, Human TF Detector Antibody (unconjugated)
The reference range value is 0.04 - 10 ng/ml.

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.

Sandwich ELISA
The recommended antibody orientation is based on internal optimization for ELISA-based assays. Antibody orientation is assay dependent and needs to be optimized for each assay type. Please note that the range provided for this antibody is only an estimation based on the performance of the product using the recommended antibody pair. Performance of the antibody pair will depend on the specific characteristics of your assay. We guarantee the product works in sandwich ELISA, but we do not guarantee the sensitivity or dynamic range of the antibody in your assay.

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

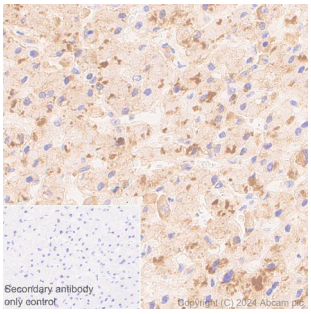
We do not recommend this combination. It is not covered by our product promise.

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



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Transferrin antibody [EPR24383-68] - BSA and Azide free (Detector) (ab277685)

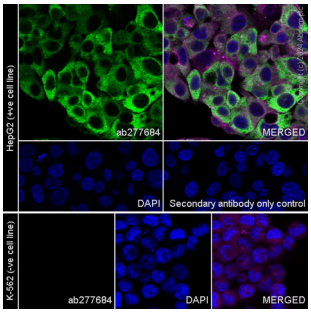
Immunohistochemical analysis of paraffin-embedded human liver labelling Transferrin with ab277685 at 1/100 (10.54 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human liver
The section was incubated with ab277685 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



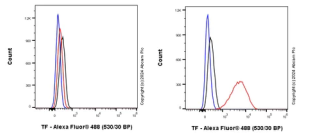
Immunocytochemistry/ Immunofluorescence - Anti-Transferrin antibody [EPR24383-68] - BSA and Azide free (Detector) (ab277685)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HepG2 (human hepatocellular carcinoma epithelial cell) labelling Transferrin with ab277685 at 1/1000 (1.054 µg/ml) dilution (Green). Confocal image showing cytoplasmic staining in HepG2 cell line.

Nuclear DNA was labelled with DAPI (shown in blue). Secondary used was ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 µg/ml). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used as a counterstain at 1/200 (2.5µg/ml) dilution (Magenta).

Negative control: K-562.

Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).



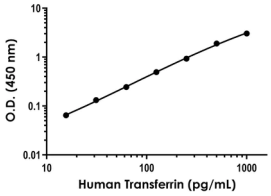
Flow Cytometry (Intracellular) - Anti-Transferrin antibody [EPR24383-68] - BSA and Azide free (Detector) (ab277685)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized K-562 (human chronic myelogenous leukemia lymphoblast, Left) / HepG2 (human hepatocellular carcinoma epithelial cell, Right) cells labelling Transferrin with ab277685 at 1/5000 dilution (0.1 ug) (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).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Negative control: K-562.



Sandwich ELISA - Anti-Transferrin antibody [EPR24383-68] - BSA and Azide free (Detector) (ab277685)

Example of Human Transferrin standard curve. Background-subtracted data values (mean +/- SD) are graphed.

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