abcam

ab133559

Anti-RBP4 antibody [EPR5879]

Recombinant | RabMAb

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	EPR5879
Purification technique	Affinity purification Protein A
Dissociation constant	9.2×10^{-13} M
Concentration	0.227 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/500 - 1/1000
Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information RBP4

Function	Retinol-binding protein that mediates retinol transport in blood plasma (PubMed:5541771). Delivers retinol from the liver stores to the peripheral tissues (Probable). Transfers the bound all-trans retinol to STRA6, that then facilitates retinol transport across the cell membrane (PubMed:22665496).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

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.

Supplementary info

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

Activity summary	RBP4 or retinol-binding protein 4 is a carrier protein that is essential for the transport of retinol or vitamin A in the bloodstream. Also known by the names RBP or plasma retinol-binding protein this protein has a molecular weight of approximately 21 kDa. RBP4 is mainly expressed in the liver and secreted into the blood where it binds to retinol and protects it from oxidation. The structure of RBP4 allows it to fit into binding pockets facilitating the transport of retinol to peripheral tissues.
Biological function summary	RBP4 plays a role as a transporter of vitamin A from the liver to tissues where it is needed. It forms complexes with transthyretin in the blood which prevents kidney filtration and subsequent loss of retinol. This function ensures the proper delivery and availability of retinol essential for vision cellular differentiation and immune system function. The stability of the retinol-RBP4 complex is important to maintaining sufficient vitamin A levels in the body.
Pathways	RBP4 is significant in the vitamin A metabolism pathway and affects the retinoid signaling pathways. These pathways are critical for processes such as vision and skin health. RBP4 interacts with proteins like lecithin retinol acyltransferase (LRAT) in these pathways which are responsible for esterifying retinol into retinyl esters a storage form of vitamin A. These interactions ensure the efficient transport and storage of vitamin A and that it is accessible when needed by different tissues.

Associated diseases and disorders	RBP4 is linked to the development of insulin resistance and type 2 diabetes. Elevated RBP4 levels correlate with these conditions and highlight its role in metabolic processes. Studies also show a connection between altered RBP4 levels and obesity with insulin resistance often occurring in conjunction with obesity. The protein is implicated in these metabolic disorders through its interactions with insulin-regulating proteins which influence glucose homeostasis.

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

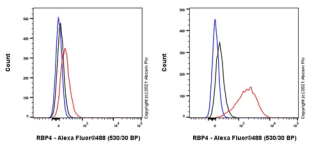
We do not recommend this combination. It is not covered by our product promise.

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.

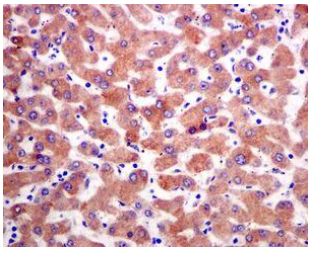
5 product images



Flow Cytometry (Intracellular) - Anti-RBP4 antibody [EPR5879] (ab133559)

RBP4 Flow Cytometry (Intracellular) staining using rabbit Anti-RBP4 antibody

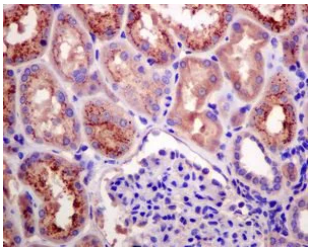
Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell, Left) / HepG2 (Human hepatocellular carcinoma epithelial cell, Right) cells labeling RBP4 with purified ab133559 at 1/1000 dilution (1 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).
Negative control: HeLa.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBP4 antibody [EPR5879] (ab133559)

RBP4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RBP4 antibody

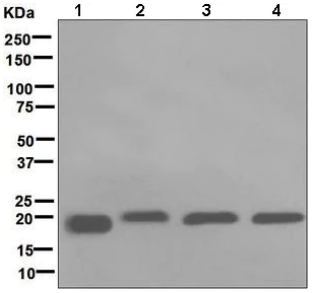
Immunohistochemical analysis of paraffin embedded Human liver tissue labelling RBP4 with ab133559 antibody at a dilution of 1/500.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBP4 antibody [EPR5879] (ab133559)

RBP4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RBP4 antibody

Immunohistochemical analysis of paraffin embedded Human kidney tissue labelling RBP4 with ab133559 antibody at a dilution of 1/500.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-RBP4 antibody [EPR5879] (ab133559)

All lanes:
Western blot - Anti-RBP4 antibody [EPR5879] (ab133559) at 1/10000 dilution

Lane 1:
Human plasma lysate at 10 µg

Lane 2:
Human fetal liver tissue lysate at 10 µg

Lane 3:
HepG2 cell lysate at 10 µg

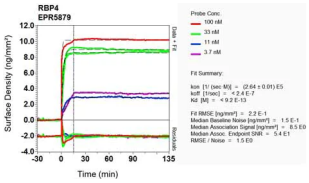
Lane 4:
Human fetal kidney tissue lysate at 10 µg

Secondary

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

Predicted band size: 23 kDa

Observed band size: 23 kDa



OI-RD Scanning - Anti-RBP4 antibody [EPR5879] (ab133559)

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'.