abcam

ab181153

Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR13854
Purification technique	Affinity purification Protein A
Specificity	The antibody immunogen share 80% homology with the IREB1 protein, therefore it is likely that the antibody cross-react with IREB1. We received some customers feedback where they observed this cross-reactivity, however no experiments were performed in our lab in order to confirm this.
Concentration	0.325 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/2000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/2000
Notes	-

Species	Human
Dilution info	1/1000 - 1/2000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Iron-responsive element-binding protein 2

Function	RNA-binding protein that binds to iron-responsive elements (IRES), which are stem-loop structures found in the 5'-UTR of ferritin, and delta aminolevulinic acid synthase mRNAs, and in the 3'-UTR of transferrin receptor mRNA. Binding to the IRE element in ferritin results in the repression of its mRNA translation. Binding of the protein to the transferrin receptor mRNA inhibits the degradation of this otherwise rapidly degraded mRNA.

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

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	IREB2 also known as IRP2 and ACO1 also known as Aconitase 1 serve vital functions in iron metabolism. Mechanically IREB2/IRP2 acts as an iron-responsive

	element-binding protein and is involved in the post-transcriptional regulation of key genes including those encoding transferrin receptor and ferritin. ACO1 functions as a bifunctional protein that switches between being an enzyme and a regulatory protein based on iron levels known to be around 98 kDa in mass. Both of these proteins express in various tissues highlighting their importance across different biological systems.
Biological function summary	The IREB2/IRP2 and ACO1 maintain cellular iron homeostasis by responding to iron levels and regulating the iron-responsive element system. They do not form part of a larger protein complex but operate independently to modulate iron metabolism. When iron is ample ACO1 behaves as an enzyme catalyzing the isomerization of citrate to isocitrate in the citric acid cycle. Conversely under iron-depleted conditions ACO1 joins IREB2/IRP2 in an RNA-binding form to control iron uptake and storage.
Pathways	These proteins play significant roles in the iron regulatory network and the citric acid cycle. IREB2/IRP2 associates with pathways involving iron uptake and release influencing genes related to ferritin and transferrin receptor. ACO1's dual function ties it to both the citric acid cycle and iron regulatory pathways showing its involvement in cellular energy production and iron balance. The interaction with other important proteins such as transferrin and ferritin is important for their regulatory functions within these pathways.
Associated diseases and disorders	IREB2 and ACO1 connections are apparent in conditions like neurodegenerative diseases and anemia. Abnormal regulation or mutations in these proteins show associations with disorders such as Parkinson’s disease and sideroblastic anemia. Interactions between IREB2/IRP2 and proteins like PARK7/DJ-1 and oxidative stress proteins underline their significance in the pathogenesis of neurodegenerative diseases and issues of iron mismanagement.

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

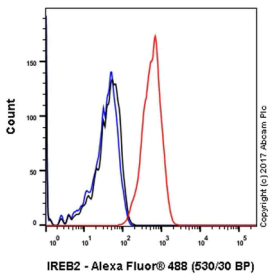
We do not recommend this combination. It is not covered by our product promise.

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.

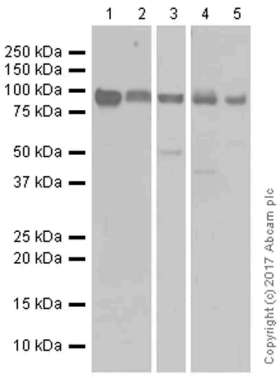
5 product images



Flow Cytometry (Intracellular) - Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854] (ab181153)

IREB2/IRP2 + Aconitase 1/ACO1 Flow Cytometry (Intracellular) staining using rabbit Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody

Intracellular Flow Cytometry analysis of HepG2 (human hepatocellular carcinoma) cells labeling IREB2 (red) with ab181153 at a 1/30 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit monoclonal IgG (ab172730). Blue (unlabeled control) - Cells without incubation with the primary and secondary antibodies.



Western blot - Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854] (ab181153)

Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854] (ab181153) at 1/1000 dilution

Lane 1:
Human fetal liver tissue lysate at 20 µg

Lane 2:
Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate at 20 µg

Lane 3:
Mouse kidney tissue lysate at 20 µg

Lane 4:
Mouse heart tissue lysate at 20 µg

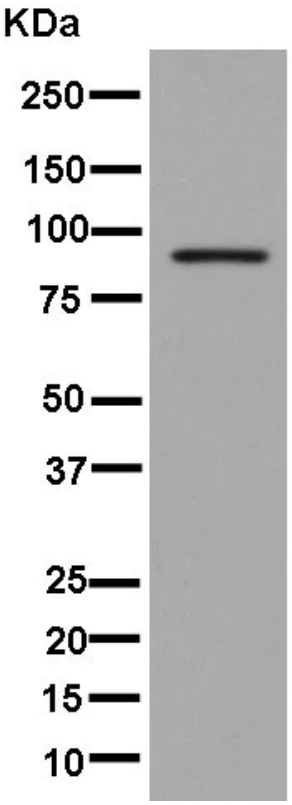
Lane 5:
Rat heart tissue lysate at 20 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 105 kDa

Observed band size: 90 kDa



Western blot - Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854] (ab181153)

IREB2/IRP2 + Aconitase 1/ACO1 Western blot staining of Human fetal liver cell lysate using rabbit Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody

All lanes:
Western blot - Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854] (ab181153) at 1/5000 dilution

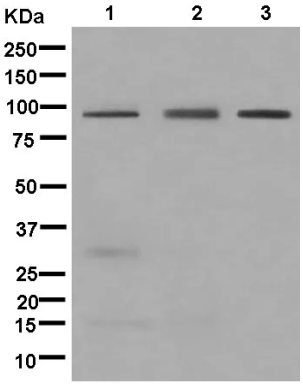
All lanes:
Human fetal liver cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab136636) at 1/500 dilution

Predicted band size: 105 kDa

Observed band size: 90 kDa



Western blot - Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854] (ab181153)

All lanes:
Western blot - Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854] (ab181153) at 1/1000 dilution

Lane 1:
A549 cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

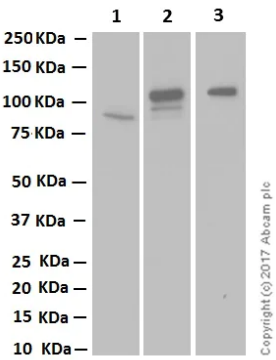
Lane 3:
Human fetal kidney tissue lysate at 10 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG, (H+L) at 1/1000 dilution

Predicted band size: 105 kDa

Observed band size: 90 kDa



Western blot - Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854] (ab181153)

Blocking and diluting buffer: 5% NFDM /TBST
All lanes:
Western blot - Anti-IREB2/IRP2 + Aconitase 1/ACO1 antibody [EPR13854] (ab181153) at 1/1000 dilution

Lane 1:
Control HEK293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 20 µg

Lane 2:
HEK293 (Human epithelial cell line from embryonic kidney) transfected with Myc-DDK tagged IREB2 expression vector, whole cell lysate at 20 µg

Lane 3:
Full-length Recombinant Human Aconitase 1 protein, at 0.02 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 105 kDa

Observed band size: 106 kDa

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