abcam

ab131165

Anti-ORP1 antibody [EPR8646]

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	EPR8646
Purification technique	Affinity purification Protein A
Concentration	0.572 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/200
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information OSBPL1A

Function	Binds phospholipids; exhibits strong binding to phosphatidic acid and weak binding to phosphatidylinositol 3-phosphate (By similarity). Stabilizes GTP-bound RAB7A on late endosomes/lysosomes and alters functional properties of late endocytic compartments via its interaction with RAB7A (PubMed:16176980). Binds 25-hydroxycholesterol and cholesterol (PubMed:17428193).

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	ORP1 also known as oxysterol-binding protein-related protein 1 is a member of the OSBP (oxysterol-binding protein) family. It functions as a lipid transfer protein involved in the regulation of intracellular lipid dynamics. ORP1 weighs approximately 108 kDa and is ubiquitously expressed in various tissues with higher levels in the liver and brain. The protein interacts with lipids and plays a role in the control of cholesterol and phosphoinositide levels by transporting them between cellular membranes.
Biological function summary	ORP1 engages in intracellular lipid transport influencing lipid homeostasis and vesicular trafficking. It is part of a protein complex that associates with late endosomes and the endoplasmic reticulum membrane. ORP1 contributes to the regulation of endosomal positioning and transport by modulating the activity of motor proteins on endosomal surfaces. This protein interaction assists in maintaining an appropriate balance of cholesterol and other sterols within cells impacting overall cellular health.
Pathways	Several cellular mechanisms involve ORP1 including the sterol regulatory element-binding protein (SREBP) pathway and the PI3K/Akt signaling pathway. ORP1 interacts with NPC1 a protein critical for cholesterol transport within the SREBP pathway to facilitate the regulation of lipid metabolism. Furthermore ORP1 influences the PI3K/Akt signaling pathway by interacting with other lipid-related proteins coordinating cellular responses to lipid levels and adapting to changes in nutritional states.
Associated diseases and disorders	Abnormalities related to ORP1 function have connections to neurodegenerative diseases and metabolic syndromes. In neurodegenerative conditions like Niemann-Pick disease ORP1 interacts with the NPC1 and NPC2 proteins both of which are important for normal cholesterol trafficking. In metabolic disorders this protein's role in lipid regulation links it to obesity and associated metabolic syndrome where dysregulation of lipid storage and transport is common. These connections render ORP1 a potential target for therapeutic intervention in these 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.

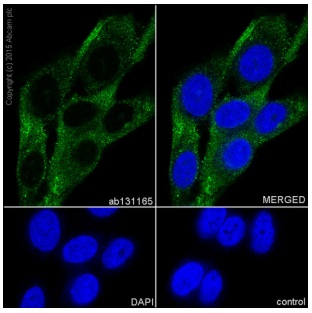
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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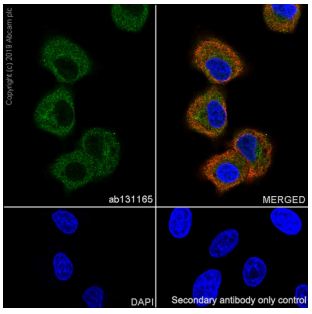
7 product images



Immunocytochemistry/ Immunofluorescence - Anti-ORP1 antibody [EPR8646] (ab131165)

ORP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ORP1 antibody

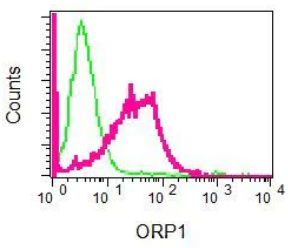
ab131165 (unpurified) staining ORP1 in U87-MG (human glioblastoma) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 100% methanol. Samples were incubated with primary antibody at a dilution of 1/500. A goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a dilution of 1/1000.
DAPI was used as a nuclear counterstain and the negative control was PBS only.



Immunocytochemistry/ Immunofluorescence - Anti-ORP1 antibody [EPR8646] (ab131165)

ORP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ORP1 antibody

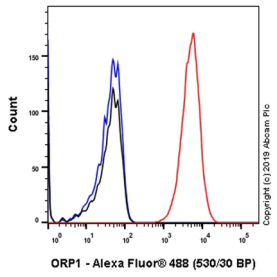
Immunocytochemistry/ Immunofluorescence analysis of A549 (Human lung carcinoma epithelial cell) cells labeling ORP1 with purified ab131165 at 1:200 dilution (2.8 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-ORP1 antibody [EPR8646] (ab131165)

ORP1 Flow Cytometry (Intracellular) staining using rabbit Anti-ORP1 antibody

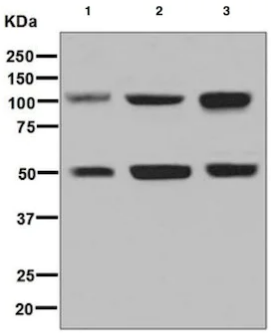
ab131165 (unpurified) at 1/10 dilution staining ORP1 in permeabilized A549 cells by intracellular flow cytometry (red). Rabbit IgG negative control (green).



Flow Cytometry (Intracellular) - Anti-ORP1 antibody [EPR8646] (ab131165)

ORP1 Flow Cytometry (Intracellular) staining using rabbit Anti-ORP1 antibody

Intracellular Flow Cytometry analysis of A549 (Human lung carcinoma epithelial cell) cells labeling ORP1 with purified ab131165 at 1/60 dilution (10 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).



Western blot - Anti-ORP1 antibody [EPR8646] (ab131165)

All lanes:
Western blot - Anti-ORP1 antibody [EPR8646] (ab131165) at 1/1000 dilution

Lane 1:
A549 cell lysate at 10 µg

Lane 2:
293T cell lysate at 10 µg

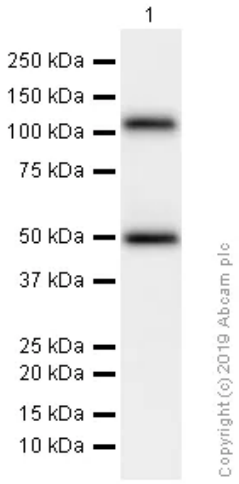
Lane 3:
U87-MG cell lysate at 10 µg

Secondary

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

Predicted band size: 108 kDa

Observed band size: 50-108 kDa



Western blot - Anti-ORP1 antibody [EPR8646] (ab131165)

Two mRNA variants produce a 108 kDa long ORP1 (ORP1L) and a 50 KDa short ORP1 (ORP1S) separately, which is consistent with what has been described in PMID: 12631712.
All lanes:
Western blot - Anti-ORP1 antibody [EPR8646] (ab131165) at 1/1000 dilution

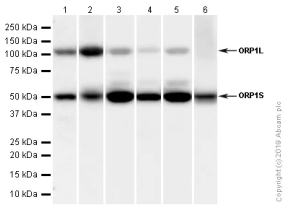
All lanes:
293T (Human embryonic kidney epithelial cell) whole cell lysates at 15 µg

Secondary

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

Predicted band size: 108 kDa

Observed band size: 108 kDa, 50 kDa



Western blot - Anti-ORP1 antibody [EPR8646] (ab131165)

Two mRNA variants produce a 108 kDa long ORP1 (ORP1L) and a 50 KDa short ORP1 (ORP1S) separately, which is consistent with what has been described in PMID: 12631712.
All lanes:
Western blot - Anti-ORP1 antibody [EPR8646] (ab131165) at 1/10000 dilution

Lane 1:
A549 (Human lung carcinoma epithelial cell) whole cell lysates at 20 µg

Lane 2:
U-87 MG (Human glioblastoma-astrocytoma epithelial cell) whole cell lysates at 20 µg

Lane 3:
Mouse brain lysates at 20 µg

Lane 4:
Mouse heart lysates at 20 µg

Lane 5:
Rat brain lysates at 20 µg

Lane 6:
Rat heart lysates at 20 µg

Secondary

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

Predicted band size: 108 kDa

Observed band size: 108 kDa, 50 kDa

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