abcam

ab134944

Anti-ORP150 antibody [EP5891]

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	EP5891
Purification technique	Affinity purification Protein A

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

WB

Tested

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

ICC/IF

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information HYOU1

Function	Has a pivotal role in cytoprotective cellular mechanisms triggered by oxygen deprivation. Promotes HSPA5/BiP-mediated ATP nucleotide exchange and thereby activates the unfolded protein response (UPR) pathway in the presence of endoplasmic reticulum stress (By similarity). May play a role as a molecular chaperone and participate in protein folding.

Storage

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

Supplementary info

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

Activity summary	ORP150 also known as Heat Shock Protein 12A (HSPA12A) is a molecular chaperone with an approximate mass of 150 kDa. This protein plays a critical role in protein folding and preventing misfolded proteins in the endoplasmic reticulum (ER). ORP150 is mainly expressed in cells that face challenging conditions like those in the brain heart and tumors. Its expression indeed increases under stress conditions that cause protein unfolding such as hypoxia or glucose deprivation.
Biological function summary	ORP150 functions to aid cellular adaptation during stress by maintaining protein homeostasis within the ER. It is recognized as part of the heat shock protein family which is known for its involvement in cellular protection mechanisms. By stabilizing polypeptides and proteins ORP150 contributes significantly to cellular survival under various stress conditions. Moreover its expression under hypoxic conditions suggests ORP150's integral role in such stressful environments helping to ameliorate oxidative damage to cells.
Pathways	ORP150 integrates into the unfolded protein response (UPR) and ER-associated degradation (ERAD) pathways. These pathways help in the maintenance of protein quality control within the ER. Within the UPR ORP150 collaborates with proteins like GRP78 another chaperone to manage misfolded proteins and ensure proper maturation of nascent chains. Furthermore ORP150 participates in ERAD where it assists in targeting misfolded proteins for degradation therefore managing cellular stress and maintaining cellular health.
Associated diseases and disorders	ORP150 has associations with neurodegenerative diseases like Alzheimer's disease and cardiovascular disorders. In conditions such as Alzheimer's the accumulation

of misfolded proteins can exacerbate the disease state where ORP150 potentially interacts with amyloid precursor protein (APP) to regulate its folding and processing. Similarly in cardiovascular diseases ORP150 may influence the function of related proteins like GRP78 as both play roles in protecting cardiac cells from ischemic damage. The consistent association of ORP150 expression with stressed cellular environments suggests its importance in the pathology and management of these conditions.

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

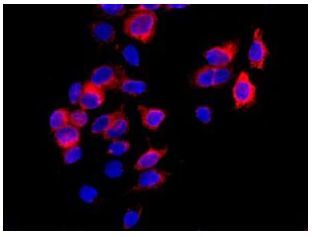
We do not recommend this combination. It is not covered by our product promise.

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.

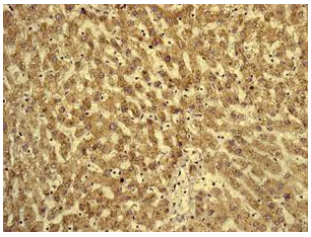
6 product images



Immunocytochemistry/ Immunofluorescence - Anti-ORP150 antibody [EP5891] (ab134944)

ORP150 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ORP150 antibody

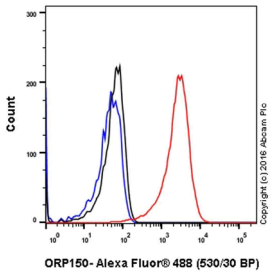
Immunofluorescence staining of MCF7 cells, labelling ORP150 using ab134944 at a 1/250 dilution (red). Cell nuclei are shown in blue.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ORP150 antibody [EP5891] (ab134944)

ORP150 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ORP150 antibody

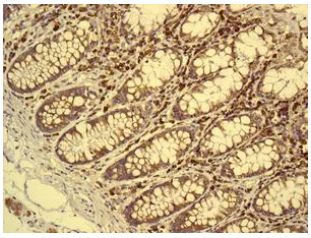
Immunohistochemical analysis of paraffin-embedded, formalin-fixed Human liver tissue, labelling ORP150 using ab134944 at a 1/250 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-ORP150 antibody [EP5891] (ab134944)

ORP150 Flow Cytometry (Intracellular) staining using rabbit Anti-ORP150 antibody

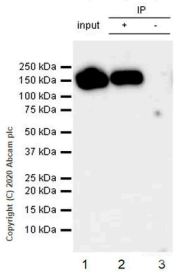
Intracellular Flow Cytometry analysis of MCF-7 (human breast carcinoma) cells labeling ORP150 with unpurified ab134944 at 1/20 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ORP150 antibody [EP5891] (ab134944)

ORP150 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ORP150 antibody

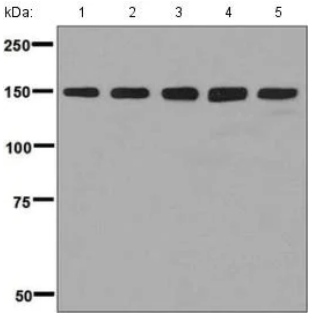
Immunohistochemical analysis of paraffin-embedded, formalin-fixed Human colon tissue, labelling ORP150 using ab134944 at a 1/250 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-ORP150 antibody [EP5891] (ab134944)

purifiedab134944 at 1/50 dilution (2µg) immunoprecipitating ORP150 in HeLa whole cell lysate.
Lane 1 (input): HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10µg
Lane 2 (+): ab134944 + HeLa whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab134944 in HeLa whole cell lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/2000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 150 kDa
All lanes:
Immunoprecipitation - Anti-ORP150 antibody [EP5891] (ab134944)

Predicted band size: 111 kDa



Western blot - Anti-ORP150 antibody [EP5891] (ab134944)

All lanes:
Western blot - Anti-ORP150 antibody [EP5891] (ab134944) at 1/5000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
SH-SY5Y cell lysate at 10 µg

Lane 3:
MCF7 cell lysate at 10 µg

Lane 4:
HepG2 cell lysate at 10 µg

Lane 5:
293T cell lysate at 10 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 111 kDa

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