abcam

Product datasheet

Anti-OPA1 antibody [EPR11057(B)] ab157457

Recombinant RabMAb

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Overview

Product name	Anti-OPA1 antibody [EPR11057(B)]
Description	Rabbit monoclonal [EPR11057(B)] to OPA1
Host species	Rabbit
Specificity	Recent lab testing showed that the antibody detects the band of interest at the proper molecular weight in several cell and tissue lysates. However, the antibody also detects a band at about 50kDa. We could not find in the literature any references on what this band could be. On our test, the 50kDa band detections decreased by decreasing the antibody concentration.
Tested applications	**Suitable for:** WB, IHC-P, IHC-Fr **Unsuitable for:** ICC/IF or IP
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat, Sheep, Rabbit, Horse, Chicken, Guinea pig, Pig, Non human primates, Chinese hamster, Common marmoset, Bat
Immunogen	Synthetic peptide within Human OPA1 aa 900 to the C-terminus. The exact sequence is proprietary. Database link: **O60313**
Positive control	WB: HeLa, HepG2, A431 cell lysates; IHC-P: Human brain and retina tissue; IHC-Fr: Mouse retina tissue.
General notes	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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20ºC.

Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 9% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA, 50% Tissue culture supernatant
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR11057(B)
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab157457 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

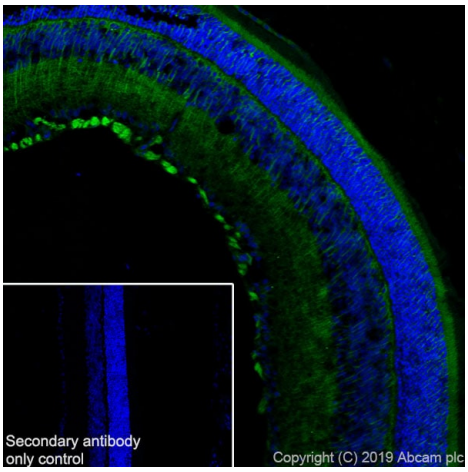
Application	Abreviews	Notes
WB	★★★★☆ (4)	1/1000 - 1/5000. Predicted molecular weight: 112 kDa.
IHC-P		1/250 - 1/500. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
IHC-Fr		1/250. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20)

Application notes Is unsuitable for ICC/IF or IP.

Target

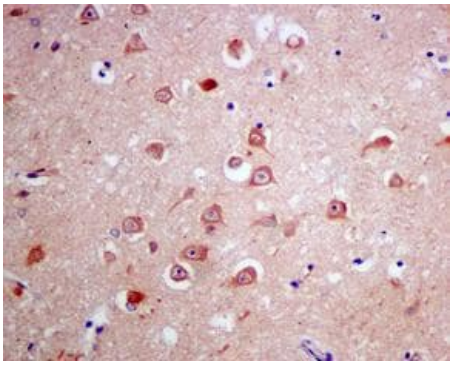
Function	Dynamin-related GTPase required for mitochondrial fusion and regulation of apoptosis. May form a diffusion barrier for proteins stored in mitochondrial cristae. Proteolytic processing in response to intrinsic apoptotic signals may lead to disassembly of OPA1 oligomers and release of the caspase activator cytochrome C (CYCS) into the mitochondrial intermembrane space.
Tissue specificity	Highly expressed in retina. Also expressed in brain, testis, heart and skeletal muscle. Isoform 1 expressed in retina, skeletal muscle, heart, lung, ovary, colon, thyroid gland, leukocytes and fetal brain. Isoform 2 expressed in colon, liver, kidney, thyroid gland and leukocytes. Low levels of all isoforms expressed in a variety of tissues.
Involvement in disease	Defects in OPA1 are a cause of optic atrophy type 1 (OPA1) [MIM:165500]. OPA1 is a dominantly inherited optic neuropathy occurring in 1 in 50,000 individuals that features progressive loss in visual acuity leading, in many cases, to legal blindness. Defects in OPA1 are the cause of optic atrophy 1 with deafness (OPA1D) [MIM:125250]. Some individuals with mutations in OPA1 manifest also ophthalmoplegia and myopathy.
Sequence similarities	Belongs to the dynamin family.
Post-translational modifications	PARL-dependent proteolytic processing releases an antiapoptotic soluble form not required for mitochondrial fusion.
Cellular localization	Mitochondrion inner membrane. Mitochondrion intermembrane space.

Images



Immunohistochemistry (Frozen sections) - Anti-OPA1 antibody [EPR11057(B)] (ab157457)

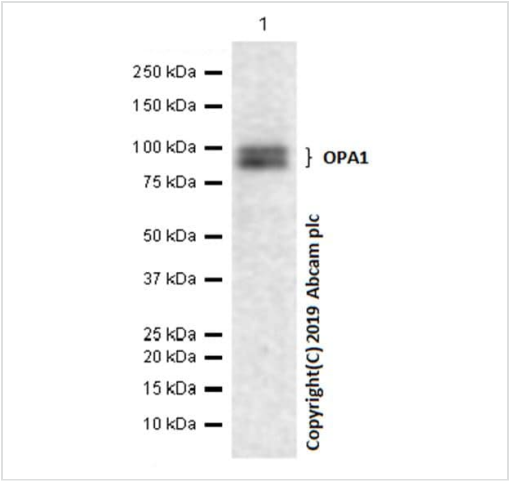
Immunohistochemistry (Frozen sections) analysis of mouse retina tissue sections labeling OPA1 with Purified ab157457 at 1/250 (1.1 µg/ml).Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. DAPI was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-OPA1 antibody [EPR11057(B)] (ab157457)

Immunohistochemical analysis of Paraffin-embedded Human brain tissue labeling OPA1 with ab157457 at 1/250 dilution.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-OPA1 antibody [EPR11057(B)] (ab157457)

Anti-OPA1 antibody [EPR11057(B)] (ab157457) at 1/1000 dilution + A431 (Human epidermoid carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

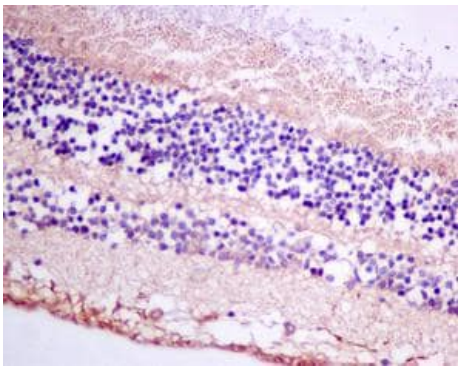
Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution (Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated)

Predicted band size: 112 kDa

Observed band size: 85-100 kDa

Exposure time: 180 seconds

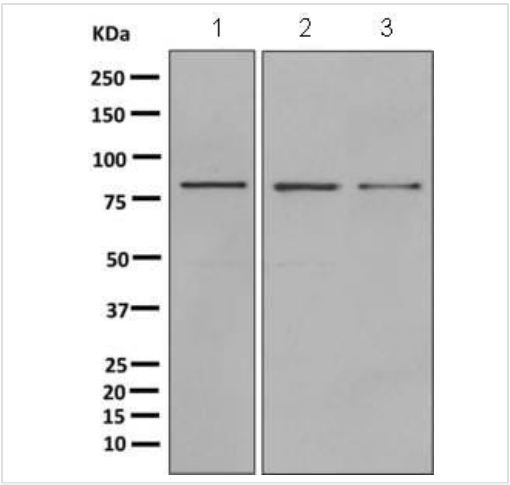
Blocking/Diluting buffer and concentration: 5% NFDM/TBST



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-OPA1 antibody [EPR11057(B)] (ab157457)

Immunohistochemical analysis of Paraffin-embedded Human retina tissue labeling OPA1 with ab157457 at 1/250 dilution.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-OPA1 antibody [EPR11057(B)] (ab157457)

All lanes : Anti-OPA1 antibody [EPR11057(B)] (ab157457) at 1/1000 dilution

Lane 1 : HeLa cell lysate

Lane 2 : HepG2 cell lysate

Lane 3 : A431 cell lysate

Lysates/proteins at 10 µg per lane.

Secondary

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

Predicted band size: 112 kDa

Anti-OPA1 antibody [EPR11057(B)] (ab157457)

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