


### Anti-OPA1 antibody ab42364

★★★★★ [7 Abreviews](#) [125 References](#) [3 Images](#)

#### Overview

<b>Product name</b>	Anti-OPA1 antibody
<b>Description</b>	Rabbit polyclonal to OPA1
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB, IP
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human <b>Predicted to work with:</b> Chicken, Orangutan 
<b>Immunogen</b>	Synthetic peptide within Rat OPA1 aa 900 to the C-terminus (C terminal) conjugated to keyhole limpet haemocyanin. The exact sequence is proprietary. (Peptide available as <a href="#">ab42363</a> )
<b>General notes</b>	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS  Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.
<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal

Isotype

IgG

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab42364 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	★★★★☆ (5)	Use a concentration of 1 µg/ml. Detects a band of approximately 92,86 kDa (predicted molecular weight: 111 kDa). Abcam recommends using milk as the blocking agent.
IP		Use at an assay dependent concentration.

## 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.

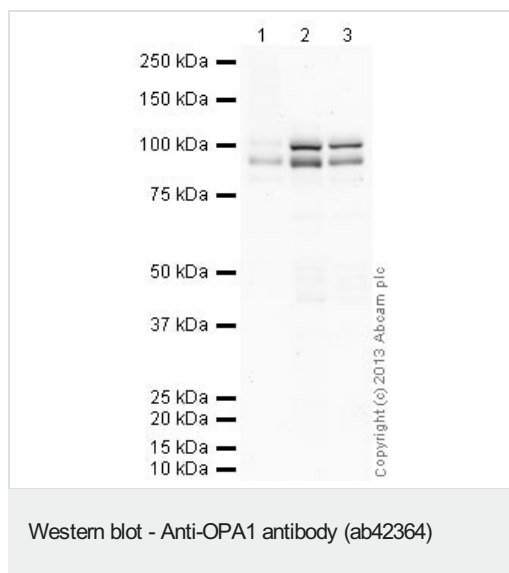
### Post-translational modifications

PARL-dependent proteolytic processing releases an antiapoptotic soluble form not required for mitochondrial fusion.

### Cellular localization

Mitochondrion inner membrane. Mitochondrion intermembrane space.

## Images



**All lanes :** Anti-OPA1 antibody (ab42364) at 1 µg/ml

**Lane 1 :** Human brain tissue lysate - total protein ([ab29466](#))

**Lane 2 :** Brain (Mouse) Tissue Lysate

**Lane 3 :** Brain (Rat) Tissue Lysate

Lysates/proteins at 10 µg per lane.

### Secondary

**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

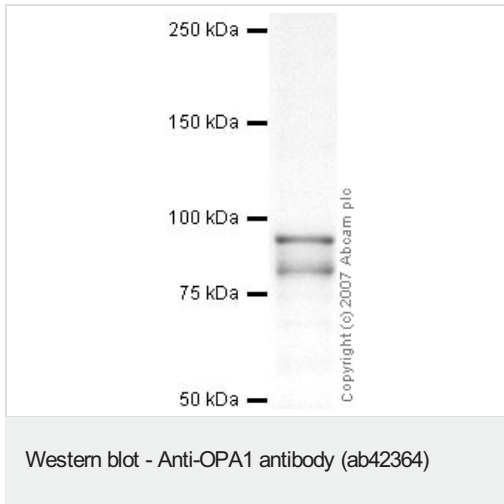
**Predicted band size:** 111 kDa

**Observed band size:** 92 kDa

**Additional bands at:** 100 kDa. We are unsure as to the identity of these extra bands.

**Exposure time:** 2 minutes

Abcam recommends using milk as the blocking agent. Abcam welcomes customer feedback and would appreciate any comments regarding this product and the data presented above.



Anti-OPA1 antibody (ab42364) at 1 µg/ml + Brain (Rat) Tissue Lysate - normal tissue at 10 µg

### Secondary

Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

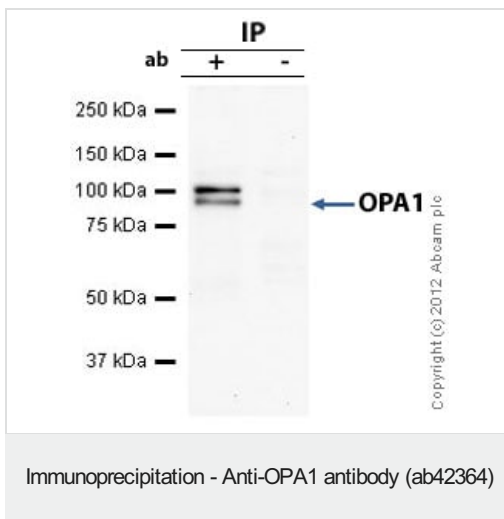
Performed under reducing conditions.

**Predicted band size:** 111 kDa

**Observed band size:** 92 kDa

**Additional bands at:** 86 kDa (possible isoform)

Although the predicted band size is ~111 kDa based on Swiss-prot data, bands of 92 kDa and 86 kDa has been previously observed. Investigative Ophthalmology & Visual Science, November 2005, Vol. 46, No. 11



OPA1 was immunoprecipitated using 0.5mg Rat Brain whole tissue lysate, 5µg of Rabbit polyclonal to OPA1 and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).

The antibody was incubated under agitation with Protein G beads for 10min, rat brain whole tissue lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.

Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70°C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab42364.

Secondary: Mouse monoclonal [SB62a] Secondary Antibody to Rabbit IgG light chain (HRP) ([ab99697](#)).

Band: 92kDa: OPA1; non specific - 100kDa: We are unsure as to the identity of this extra band.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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