

OPA1(form S1) Antibody (C-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20727c**Specification**

OPA1(form S1) Antibody (C-term) - Product Information

Application	WB,E
Primary Accession	O60313
Other Accession	Q2TA68 , P58281 , Q5U3A7 , Q5F499
Reactivity	Human, Mouse, Rat
Predicted	Chicken, Zebrafish
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	111631

OPA1(form S1) Antibody (C-term) - Additional Information**Gene ID** 4976**Other Names**

Dynamin-like 120 kDa protein, mitochondrial, Optic atrophy protein 1, Dynamin-like 120 kDa protein, form S1, OPA1, KIAA0567

Target/Specificity

This OPA1(form S1) antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 895-929 amino acids from the C-terminal region of human OPA1(form S1).

Dilution

WB~~1:1000

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

OPA1(form S1) Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

OPA1(form S1) Antibody (C-term) - Protein Information**Name** OPA1

Function Dynamin-related GTPase that is essential for normal mitochondrial morphology by mediating fusion of the mitochondrial inner membranes, regulating cristae morphology and maintaining respiratory chain function (PubMed:[16778770](#), PubMed:[17709429](#), PubMed:[20185555](#), PubMed:[24616225](#), PubMed:[28628083](#), PubMed:[28746876](#), PubMed:[31922487](#), PubMed:[32228866](#), PubMed:[32567732](#), PubMed:[33130824](#), PubMed:[33237841](#), PubMed:[37612504](#), PubMed:[37612506](#)). Exists in two forms: the transmembrane, long form (Dynamin-like GTPase OPA1, long form; L-OPA1), which is tethered to the inner mitochondrial membrane, and the short soluble form (Dynamin-like GTPase OPA1, short form; S-OPA1), which results from proteolytic cleavage and localizes in the intermembrane space (PubMed:[31922487](#), PubMed:[32228866](#), PubMed:[33237841](#), PubMed:[37612504](#), PubMed:[37612506](#)). Both forms (L-OPA1 and S-OPA1) cooperate to catalyze the fusion of the mitochondrial inner membrane (PubMed:[31922487](#), PubMed:[37612504](#), PubMed:[37612506](#)). The equilibrium between L-OPA1 and S-OPA1 is essential: excess levels of S-OPA1, produced by cleavage by OMA1 following loss of mitochondrial membrane potential, lead to an impaired equilibrium between L-OPA1 and S-OPA1, inhibiting mitochondrial fusion (PubMed:[20038677](#), PubMed:[31922487](#)). The balance between L-OPA1 and S-OPA1 also influences cristae shape and morphology (By similarity). Involved in remodeling cristae and the release of cytochrome c during apoptosis (By similarity). Proteolytic processing by PARL 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 (By similarity). Acts as a regulator of T-helper Th17 cells, which are characterized by cells with fused mitochondria with tight cristae, by mediating mitochondrial membrane remodeling: OPA1 is required for interleukin-17 (IL-17) production (By similarity). Its role in mitochondrial morphology is required for mitochondrial genome maintenance (PubMed:[18158317](#), PubMed:[20974897](#)).

Cellular Location

[Dynamin-like GTPase OPA1, long form]: Mitochondrion inner membrane; Single-pass membrane protein. Note=Detected at contact sites between endoplasmic reticulum and mitochondrion membranes.

Tissue Location

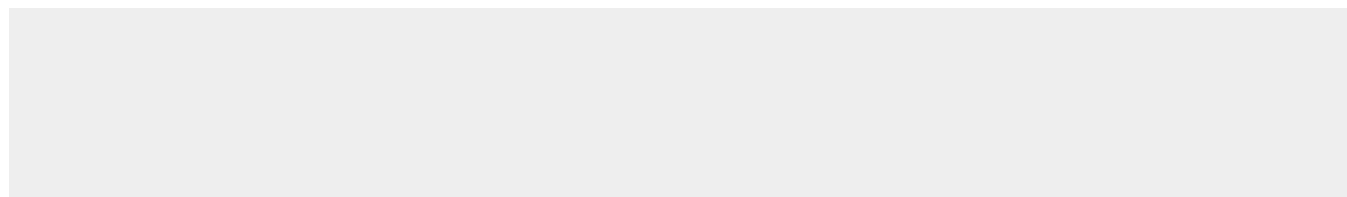
Highly expressed in retina (PubMed:11017079, PubMed:11017080, PubMed:11810270). Also expressed in brain, testis, heart and skeletal muscle (PubMed:11810270). Low levels of all isoforms expressed in a variety of tissues (PubMed:11810270) [Isoform 2]: Isoform 2 expressed in colon, liver, kidney, thyroid gland and leukocytes.

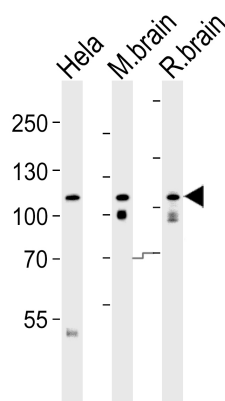
OPA1(form S1) Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

OPA1(form S1) Antibody (C-term) - Images





Western blot analysis of lysates from HeLa cell line, mouse brain and rat brain tissue lysate (from left to right), using OPA1(form S1) Antibody (C-term) (Cat. #AP20727c). AP20727c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

OPA1(form S1) Antibody (C-term) - Background

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.

OPA1(form S1) Antibody (C-term) - References

Nagase T., et al. DNA Res. 5:31-39(1998).
Wang W., et al. Nucleic Acids Res. 39:44-58(2011).
Muzny D.M., et al. Nature 440:1194-1198(2006).
Mural R.J., et al. Submitted (SEP-2005) to the EMBL/GenBank/DBJ databases.
Delettre C., et al. Hum. Genet. 109:584-591(2001).

OPA1(form S1) Antibody (C-term) - Citations

- [Mitochondrial transplantation reduces lower limb ischemia-reperfusion injury by increasing skeletal muscle energy and adipocyte browning](#)
- [MCCC2 is a novel mediator between mitochondria and telomere and functions as an oncogene in colorectal cancer](#)