

Anti-OPA1 Antibody
Rabbit polyclonal antibody to OPA1
Catalog # AP60195

Specification

Anti-OPA1 Antibody - Product Information

Application	WB
Primary Accession	O60313
Other Accession	P58281
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	111631

Anti-OPA1 Antibody - Additional Information

Gene ID 4976

Other Names

KIAA0567; Dynamin-like 120 kDa protein mitochondrial; Optic atrophy protein 1

Target/Specificity

Recognizes endogenous levels of OPA1 protein.

Dilution

WB~~WB (1/500 - 1/1000)

Format

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

Storage

Store at -20 °C. Stable for 12 months from date of receipt

Anti-OPA1 Antibody - 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](http://www.uniprot.org/citations/16778770), PubMed: [17709429](http://www.uniprot.org/citations/17709429), PubMed: [20185555](http://www.uniprot.org/citations/20185555), PubMed: [24616225](http://www.uniprot.org/citations/24616225), PubMed: [28628083](http://www.uniprot.org/citations/28628083), PubMed: [28746876](http://www.uniprot.org/citations/28746876), PubMed: [31922487](http://www.uniprot.org/citations/31922487))

target="_blank">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.

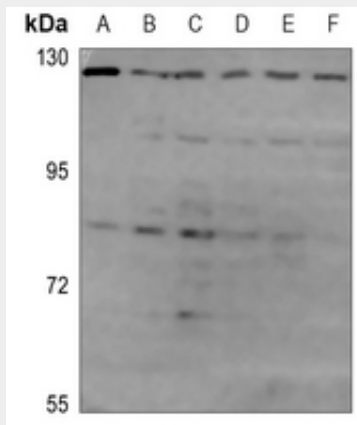
Anti-OPA1 Antibody - Protocols

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](#)

Anti-OPA1 Antibody - Images



Western blot analysis of OPA1 expression in HEK293T (A), H1688 (B), H1792 (C), mouse kidney (D), rat kidney (E), rat heart (F) whole cell lysates.

Anti-OPA1 Antibody - Background

KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human OPA1. The exact sequence is proprietary.