

**OPA1 Rabbit mAb**  
Catalog # AP76972**Specification****OPA1 Rabbit mAb - Product Information**

Application	WB, IHC-P, FC, ICC
Primary Accession	<a href="#">O60313</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	111631

**OPA1 Rabbit mAb - Additional Information**

Gene ID 4976

**Other Names**

OPA1

**Format**

Liquid

**OPA1 Rabbit mAb - 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), PubMed: [32228866](http://www.uniprot.org/citations/32228866), PubMed: [32567732](http://www.uniprot.org/citations/32567732), PubMed: [33130824](http://www.uniprot.org/citations/33130824), PubMed: [33237841](http://www.uniprot.org/citations/33237841), PubMed: [37612504](http://www.uniprot.org/citations/37612504), PubMed: [37612506](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/31922487), PubMed: [32228866](http://www.uniprot.org/citations/32228866), PubMed: [32567732](http://www.uniprot.org/citations/32567732), PubMed: [33130824](http://www.uniprot.org/citations/33130824), PubMed: [33237841](http://www.uniprot.org/citations/33237841), PubMed: [37612504](http://www.uniprot.org/citations/37612504), PubMed: [37612506](http://www.uniprot.org/citations/37612506)).

href="http://www.uniprot.org/citations/33237841" target="\_blank">33237841</a>, PubMed:<a href="http://www.uniprot.org/citations/37612504" target="\_blank">37612504</a>, PubMed:<a href="http://www.uniprot.org/citations/37612506" target="\_blank">37612506</a>). Both forms (L-OPA1 and S-OPA1) cooperate to catalyze the fusion of the mitochondrial inner membrane (PubMed:<a href="http://www.uniprot.org/citations/31922487" target="\_blank">31922487</a>, PubMed:<a href="http://www.uniprot.org/citations/37612504" target="\_blank">37612504</a>, PubMed:<a href="http://www.uniprot.org/citations/37612506" target="\_blank">37612506</a>). 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:<a href="http://www.uniprot.org/citations/20038677" target="\_blank">20038677</a>, PubMed:<a href="http://www.uniprot.org/citations/31922487" target="\_blank">31922487</a>). 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:<a href="http://www.uniprot.org/citations/18158317" target="\_blank">18158317</a>, PubMed:<a href="http://www.uniprot.org/citations/20974897" target="\_blank">20974897</a>).

#### Cellular Location

[Dynamain-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 Rabbit mAb - 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 Rabbit mAb - Images