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OMA1 antibody - middle region
Rabbit Polyclonal Antibody
Catalog # AI13463

Specification

OMA1 antibody - middle region - Product Information

Application	**WB**
Primary Accession	Q96E52
Other Accession	NM_145243, NP_660286
Reactivity	**Human, Zebrafish, Pig**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**60 KDa**

OMA1 antibody - middle region - Additional Information

Gene ID 115209

Alias Symbol	**2010001O09Rik, DAB1, FLJ33782, MPRP-1, YKR087C, ZMPOMA1**

Other Names
Metalloendopeptidase OMA1, mitochondrial, 3.4.24.-, Metalloprotease-related protein 1, MPRP-1, Overlapping with the m-AAA protease 1 homolog, OMA1, MPRP1

Format
Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.

Reconstitution & Storage
Add 50 ul of distilled water. Final anti-OMA1 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.

Precautions
OMA1 antibody - middle region is for research use only and not for use in diagnostic or therapeutic procedures.

OMA1 antibody - middle region - Protein Information

Name OMA1 {ECO:0000303|PubMed:20038677, ECO:0000312|HGNC:HGNC:29661}

Function
Metalloprotease that is part of the quality control system in the inner membrane of mitochondria (PubMed:20038677, PubMed:25605331, PubMed:32132706, PubMed:32132707). Activated in response to various mitochondrial stress, leading to the proteolytic cleavage of target proteins, such as OPA1, UQCC3 and DELE1 (PubMed:20038677, PubMed:<a

href="http://www.uniprot.org/citations/25275009" target="_blank">25275009, PubMed:32132706, PubMed:32132707). Involved in the fusion of the mitochondrial inner membranes by mediating cleavage of OPA1 at S1 position, generating the soluble OPA1 (S-OPA1), which cooperates with the membrane form (L-OPA1) to coordinate the fusion of mitochondrial inner membranes (PubMed:31922487). Following stress conditions that induce loss of mitochondrial membrane potential, mediates cleavage of OPA1, leading to excess production of soluble OPA1 (S-OPA1) and negative regulation of mitochondrial fusion (PubMed:20038677, PubMed:25275009). Involved in mitochondrial safeguard in response to transient mitochondrial membrane depolarization (flickering) by catalyzing cleavage of OPA1, leading to excess production of S-OPA1, preventing mitochondrial hyperfusion (By similarity). Also acts as a regulator of apoptosis: upon BAK and BAX aggregation, mediates cleavage of OPA1, leading to the remodeling of mitochondrial cristae and allowing the release of cytochrome c from mitochondrial cristae (PubMed:25275009). In depolarized mitochondria, may also act as a backup protease for PINK1 by mediating PINK1 cleavage and promoting its subsequent degradation by the proteasome (PubMed:30733118). May also cleave UQCC3 in response to mitochondrial depolarization (PubMed:25605331). Also acts as an activator of the integrated stress response (ISR): in response to mitochondrial stress, mediates cleavage of DELE1 to generate the processed form of DELE1 (S- DELE1), which translocates to the cytosol and activates EIF2AK1/HRI to trigger the ISR (PubMed:32132706, PubMed:32132707). Its role in mitochondrial quality control is essential for regulating lipid metabolism as well as to maintain body temperature and energy expenditure under cold-stress conditions (By similarity). Binds cardiolipin, possibly regulating its protein turnover (By similarity). Required for the stability of the respiratory supercomplexes (By similarity).

Cellular Location
Mitochondrion inner membrane; Single-pass membrane protein {ECO:0000250|UniProtKB:Q9D8H7}

Tissue Location
Widely expressed, with strong expression in the heart, skeletal muscle, kidney and liver

OMA1 antibody - middle region - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

OMA1 antibody - middle region - Images

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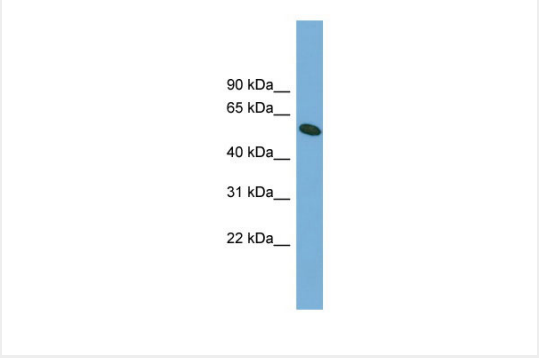

WB Suggested Anti-OMA1 Antibody Titration: 0.2-1 µg/ml
Positive Control: 721_B cell lysate

OMA1 antibody - middle region - References

Bao Y.-C.,et al.DNA Res. 10:123-128(2003).
Gregory S.G.,et al.Nature 441:315-321(2006).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
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