10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

OMA1 Rabbit pAb

OMA1 Rabbit pAb
Catalog # AP57606

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q96E52
Reactivity	Rat, Human, Mouse
Predicted	Pig, Cat, Rabbit, Zebrafish, Chicken, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	60120
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human OMA1
Epitope Specificity	401-500/524
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Mitochondrion membrane.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Additional Information

Gene ID	115209
Other Names	Metalloendopeptidase OMA1, mitochondrial, 3.4.24.-, Metalloprotease-related protein 1, MPRP-1, Overlapping with the m-AAA protease 1 homolog, OMA1 {ECO:0000303|PubMed:20038677, ECO:0000312|HGNC:HGNC:29661}
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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: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}

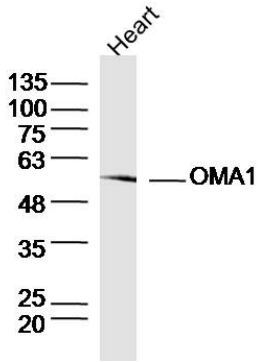
Tissue Location

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

Background

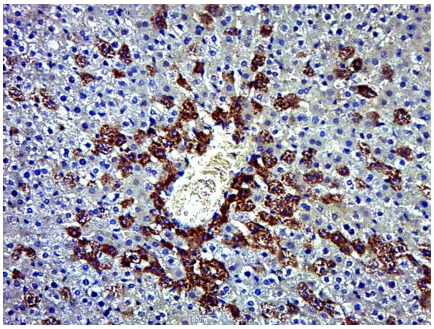
This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Images



Sample: Heart (Mouse) Lysate at 40 ug
Primary: Anti- OMA1 (AP57606) at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 60 kD
Observed band size: 55 kD

Paraformaldehyde-fixed, paraffin embedded (Rat liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3%



hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (OMA1) Polyclonal Antibody, Unconjugated (AP57606) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.