10320 Camino Santa Fe, Suite G
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Tel: 858.875.1900 Fax: 858.875.1999

OMA1 Polyclonal Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP57606

Specification

OMA1 Polyclonal Antibody - Product Information

Application	**IHC-P, WB**
Primary Accession	Q96E52
Reactivity	**Rat, Pig, Cat, Bovine**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**60120**

OMA1 Polyclonal Antibody - 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}

Format
0.01M TBS(pH7.4), 0.09% (W/V) sodium azide and 50% Glyce

Storage
Store at -20 ℃ 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 ℃.

OMA1 Polyclonal Antibody - 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:<a

href="http://www.uniprot.org/citations/31922487" target="_blank">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 Polyclonal 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 Cytomety
- Cell Culture

OMA1 Polyclonal Antibody - Images

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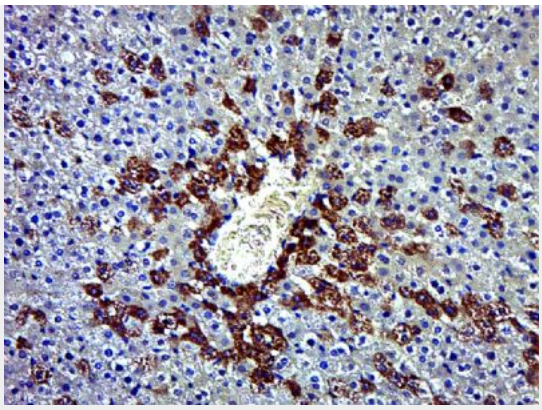
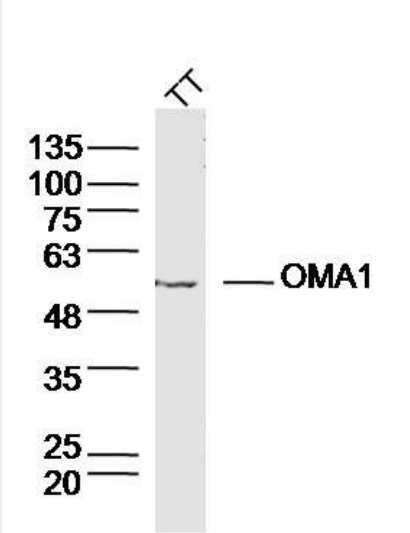


Paraformaldehyde-fixed, paraffin embedded (Rat liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (OMA1) Polyclonal Antibody, Unconjugated (bs-19641R) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.



Sample:
TT Cell (Human) Lysate at 40 ug
Primary: Anti- OMA1 (bs-19641R) at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 60 kD
Observed band size: 55 kD

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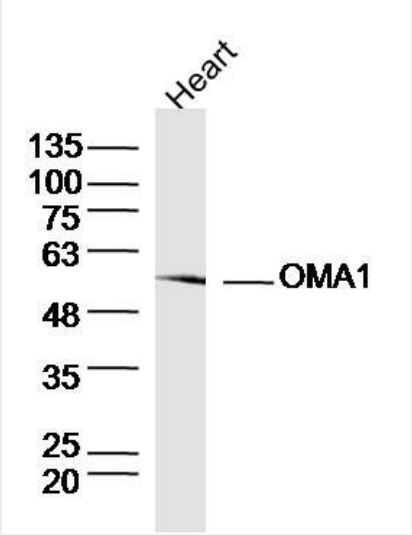
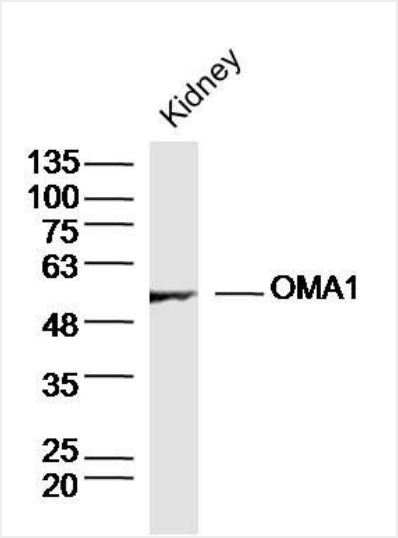


Sample: Heart (Mouse) Lysate at 40 ug
Primary: Anti- OMA1 (bs-19641R) at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 60 kD
Observed band size: 55 kD



Sample: Kidney (Mouse) Lysate at 40 ug
Primary: Anti- OMA1 (bs-19641R) at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 60 kD
Observed band size: 55 kD

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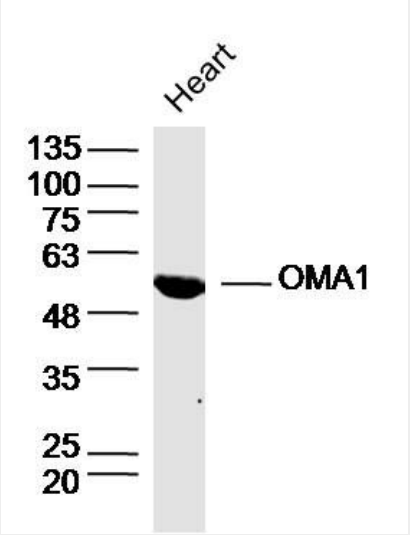

Sample: Heart (Rat) Lysate at 40 ug
Primary: Anti- OMA1 (bs-19641R) at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 60 kD
Observed band size: 55 kD