

OMA1 (D4J7K) Rabbit mAb

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 37	Source/Isotype: Rabbit IgG	UniProt ID: #Q96E52	Entrez-Gene Id: 115209
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Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

OMA1 (D4J7K) Rabbit mAb recognizes endogenous levels of total OMA1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu504 of human OMA1 protein.

Background

Mitochondria continuously divide and fuse. This dynamic process is highly regulated in response to various physiological cues (1,2). The GTPase OPA1 mediates the fusion of the mitochondrial inner membrane. Constitutive proteolytic processes mediated by OMA1 (S1 site) and YME1L (S2 site) convert long isoforms (L-OPA1) into short isoforms (S-OPA1). The balance between L-OPA1 and S-OPA1 is required to maintain a normal morphology of mitochondria (3,4). OMA1 is synthesized as a precursor and processed into a mature form (5,6). OMA1 is constitutively active and cleaves L-OPA1 at the S1 site. However, various stress stimuli can further activate OMA1 and result in the rapid and complete conversion of L-OPA1 into S-OPA1, which inhibits fusion and causes mitochondrial fragmentation (6).

Background References

1. Chan, D.C. (2012) *Annu Rev Genet* 46, 265-87.
2. Lee, H. and Yoon, Y. (2016) *Biochem Soc Trans* 44, 1725-1735.
3. Anand, R. et al. (2014) *J Cell Biol* 204, 919-29.
4. MacVicar, T. and Langer, T. (2016) *J Cell Sci* 129, 2297-306.
5. Head, B. et al. (2009) *J Cell Biol* 187, 959-66.
6. Baker, M.J. et al. (2014) *EMBO J* 33, 578-93.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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