Recombinant Human OMA1 Protein, His-tagged

Cat. No. OMA1-036H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant N-terminal His-tagged OMA1 human protein (217-524) was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	217-524
Description	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). Following stress conditions that induce loss of mitochondrial membrane potential, mediates cleavage of OPA1 at S1 position, leading to OPA1 inactivation and negative regulation of mitochondrial fusion (PubMed:20038677, PubMed:25275009). 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

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	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).
Molecular Mass	37.1 kDa
Purity	≥90%
Applications	WB, ELISA
Stability	≥ 1 year
Storage	At -80 centigrade.
Storage Buffer	50 mM Tris, pH 8.0, with 150 mM sodium chloride, 10% glycerol, 0.5 M L-arginine, and 2 μM zinc chloride

GENE INFORMATION

Gene Name	OMA1 OMA1 zinc metallopeptidase [Homo sapiens (human)]
Official Symbol	OMA1
Synonyms	OMA1; OMA1 zinc metallopeptidase; DAB1; MPRP1; MPRP-1; YKR087C; ZMPOMA1; peptidase; 2010001O09Rik; metalloendopeptidase OMA1, mitochondrial; OMA1 homolog, zinc metallopeptidase; OMA1 zinc metallopeptidase homolog;

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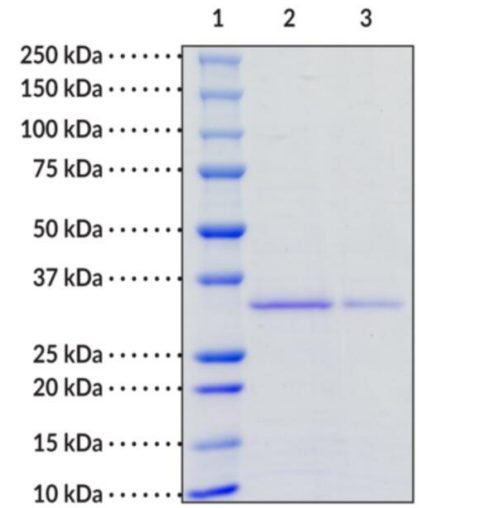
	metalloprotease-related protein 1; overlapping activity with M-AAA protease; overlapping with the m-AAA protease 1 homolog; zinc metallopeptidase OMA1
Gene ID	115209
mRNA Refseq	NM_145243
Protein Refseq	NP_660286
MIM	617081
UniProt ID	Q96E52
SDS-PAGE analysis of OMA1	 Lane 1: MW Markers Lane 2: NSD1 (1 µg) Lane 3: NSD1 (2 µg) Lane 4: NSD1 (5 µg)

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