VCP Antibody – Polyclonal

PRODUCT OVERVIEW

Product Name	VCP, Polyclonal Antibody
Full Product Name	VCP Polyclonal Antibody
Product Gene Name	anti-VCP antibody
Clonality	Polyclonal
Molecular Weight	89,322 Da
OMIM	167320
3D Structure	ModBase 3D Structure for P55072
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for anti-VCP antibody	MBS8525847 is an antibody targeting VCP. Also known as VCP Polyclonal Antibody.
Other Notes	Small volumes of anti-VCP antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for VCP. It may not necessarily be applicable to this product.

NCBI GI #	6005942
NCBI GeneID	7415
NCBI Accession #	NP_009057.1
UniProt Primary Accession #	P55072
UniProt Secondary Accession #	Q0V924; Q2TAI5; Q969G7; Q9UCD5; B2R5T8
UniProt Related Accession #	P55072
GenBank Nucleotide #	NM_007126.4
NCBI Official Full Name	transitional endoplasmic reticulum ATPase isoform 1
NCBI Official Synonym Full Names	valosin containing protein
NCBI Official Symbol	VCP
NCBI Official Synonym Symbols	p97; TERA; CDC48
UniProt Protein Name	Transitional endoplasmic reticulum ATPase
UniProt Synonym Protein Names	15S Mg(2+)-ATPase p97 subunit; Valosin-containing protein; VCP
Protein Family	Transitional endoplasmic reticulum ATPase
UniProt Gene Name	VCP
UniProt Synonym Gene Names	TER ATPase; VCP
NCBI Protein Information	transitional endoplasmic reticulum ATPase

NCBI Summary for VCP	This gene encodes a member of the AAA ATPase family of proteins. The encoded protein plays a role in protein degradation, intracellular membrane fusion, DNA repair and replication, regulation of the cell cycle, and activation of the NF-kappa B pathway. This protein forms a homohexameric complex that interacts with a variety of cofactors and extracts ubiquitinated proteins from lipid membranes or protein complexes. Mutations in this gene cause IBMPFD (inclusion body myopathy with paget disease of bone and frontotemporal dementia), ALS (amyotrophic lateral sclerosis) and Charcot-Marie-Tooth disease in human patients. [provided by RefSeq, Aug 2017]
UniProt Comments for VCP	Necessary for the fragmentation of Golgi stacks during mitosis and for their reassembly after mitosis. Involved in the formation of the transitional endoplasmic reticulum (tER). The transfer of membranes from the endoplasmic reticulum to the Golgi apparatus occurs via 50-70 nm transition vesicles which derive from part-rough, part-smooth transitional elements of the endoplasmic reticulum (tER). Vesicle budding from the tER is an ATP-dependent process. The ternary complex containing UFD1, VCP and NPLOC4 binds ubiquitinated proteins and is necessary for the export of misfolded proteins from the ER to the cytoplasm, where they are degraded by the proteasome. The NPLOC4-UFD1-VCP complex regulates spindle disassembly at the end of mitosis and is necessary for the formation of a closed nuclear envelope. Regulates E3 ubiquitin-protein ligase activity of RNF19A. Component of the VCP/p97-AMFR/gp78 complex that participates in the final step of the sterol-mediated ubiquitination and endoplasmic reticulum-associated degradation (ERAD) of HMGCR. Involved in endoplasmic reticulum stress-induced pre-emptive quality control, a mechanism that selectively attenuates the translocation of newly synthesized proteins into the endoplasmic reticulum and reroutes them to the cytosol for proteasomal degradation (PubMed:26565908). Also involved in DNA damage response: recruited to double-strand breaks (DSBs) sites in a RNF8- and RNF168-dependent manner and promotes the recruitment of TP53BP1 at DNA damage sites (PubMed:22020440, PubMed:22120668). Recruited to stalled replication forks by SPRTN: may act by mediating extraction of DNA polymerase eta (POLH) to prevent excessive translesion DNA synthesis and limit the incidence of mutations induced by DNA damage (PubMed:23042607, PubMed:23042605). Required for cytoplasmic retrotranslocation of stressed/damaged mitochondrial outer-membrane proteins and their subsequent proteasomal degradation (PubMed:16186510, PubMed:21118995). Essential for the maturation of ubiquitin-containing autophagosomes and the clearance of ubiquitinated protein by autophagy (PubMed:20104022, PubMed:27753622). Acts as a negative regulator of type I interferon production by interacting with DDX58/RIG-I: interaction takes place when DDX58/RIG-I is ubiquitinated via 'Lys-63'-linked ubiquitin on its CARD domains, leading to recruit RNF125 and promote ubiquitination and degradation of DDX58/RIG-I (PubMed:26471729). May play a role in the ubiquitin-dependent sorting of membrane proteins to lysosomes where they undergo degradation (PubMed:21822278). May more particularly play a role in caveolins sorting in cells (PubMed:21822278, PubMed:23335559).
Research Articles on VCP	**1.** a p97 mutant that causes inclusion body myopathy, Paget's disease of bone, and frontotemporal dementia unfolds substrate faster, suggesting that excess activity may underlie pathogenesis
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