

**VCP Antibody (C-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP6920b****Specification****VCP Antibody (C-term) Blocking Peptide - Product Information**Primary Accession [P55072](#)**VCP Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 7415**Other Names**

Transitional endoplasmic reticulum ATPase, TER ATPase, 15S Mg(2+)-ATPase p97 subunit, Valosin-containing protein, VCP, VCP

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP6920b](/products/AP6920b) was selected from the C-term region of human VCP. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**VCP Antibody (C-term) Blocking Peptide - Protein Information****Name** VCP**VCP Antibody (C-term) Blocking Peptide - Background**

VCP is a member of a family that includes putative ATP-binding proteins involved in vesicle transport and fusion, 26S proteasome function, and assembly of peroxisomes. This protein, as a structural protein, is associated with clathrin, and heat-shock protein Hsc70, to form a complex. It has been implicated in a number of cellular events that are regulated during mitosis, including homotypic membrane fusion, spindle pole body function, and ubiquitin-dependent protein degradation.

**VCP Antibody (C-term) Blocking Peptide - References**

Rush,J., et.al., Nat. Biotechnol. 23 (1), 94-101 (2005)

**Function**

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:<a href="http://www.uniprot.org/citations/26565908" target="\_blank">26565908</a>). Plays a role in the regulation of stress granules (SGs) clearance process upon arsenite-induced response (PubMed:<a href="http://www.uniprot.org/citations/29804830" target="\_blank">29804830</a>). 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:<a href="http://www.uniprot.org/citations/22020440" target="\_blank">22020440</a>, PubMed:<a href="http://www.uniprot.org/citations/22120668" target="\_blank">22120668</a>). 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:<a href="http://www.uniprot.org/citations/23042607" target="\_blank">23042607</a>, PubMed:<a href="http://www.uniprot.org/citations/23042605" target="\_blank">23042605</a>). Together with SPRTN metalloprotease, involved in the repair of covalent DNA-protein cross-links (DPCs) during DNA synthesis (PubMed:<a href="http://www.uniprot.org/citations/32152270" target="\_blank">32152270</a>). Involved in interstrand cross-link repair in response to replication stress by mediating unloading of the ubiquitinated CMG helicase complex (By similarity). Required for cytoplasmic retrotranslocation of stressed/damaged mitochondrial outer-membrane proteins and their subsequent proteasomal degradation (PubMed:<a href="http://www.uniprot.org/citations/16186510" target="\_blank">16186510</a>, PubMed:<a href="http://www.uniprot.org/citations/21118995" target="\_blank">21118995</a>). Essential for the maturation of ubiquitin-containing autophagosomes and the clearance of ubiquitinated protein by autophagy (PubMed:<a href="http://www.uniprot.org/citations/20104022" target="\_blank">20104022</a>, PubMed:<a href="http://www.uniprot.org/citations/27753622" target="\_blank">27753622</a>). 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:<a href="http://www.uniprot.org/citations/26471729" target="\_blank">26471729</a>). May play a role in the ubiquitin-dependent sorting of membrane proteins to lysosomes where they undergo degradation (PubMed:<a href="http://www.uniprot.org/citations/21822278" target="\_blank">21822278</a>). May more particularly play a role in caveolins sorting in cells (PubMed:<a href="http://www.uniprot.org/citations/21822278" target="\_blank">21822278</a>, PubMed:<a href="http://www.uniprot.org/citations/23335559" target="\_blank">23335559</a>). By controlling the steady-state expression of the IGF1R receptor, indirectly regulates the

insulin-like growth factor receptor signaling pathway (PubMed:<a href="http://www.uniprot.org/citations/26692333" target="\_blank">26692333</a>).

**Cellular Location**

Cytoplasm, cytosol. Endoplasmic reticulum. Nucleus. Cytoplasm, Stress granule. Note=Present in the neuronal hyaline inclusion bodies specifically found in motor neurons from amyotrophic lateral sclerosis patients (PubMed:15456787). Present in the Lewy bodies specifically found in neurons from Parkinson disease patients (PubMed:15456787). Recruited to the cytoplasmic surface of the endoplasmic reticulum via interaction with AMFR/gp78 (PubMed:16168377) Following DNA double-strand breaks, recruited to the sites of damage (PubMed:22120668). Recruited to stalled replication forks via interaction with SPRTN (PubMed:23042605). Recruited to damaged lysosomes decorated with K48-linked ubiquitin chains (PubMed:27753622) Colocalizes with TIA1, ZFAND1 and G3BP1 in cytoplasmic stress granules (SGs) in response to arsenite-induced stress treatment (PubMed:29804830).

**VCP Antibody (C-term) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)