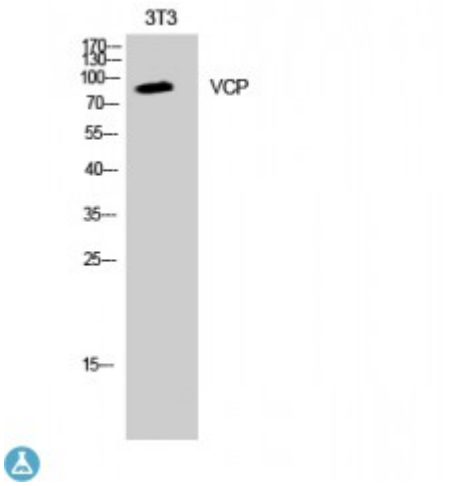
Anti-VCP antibody



Description	VCP is a protein encoded by the VCP gene which is approximately 89,3 kDa. VCP is localised to the cytoplasm, endoplasmic reticulum and nucleus. It is involved in CDK-mediated phosphorylation and removal of Cdc6, the innate immune system, the cellular response to heat stress and the HIV life cycle. It is a structural protein that associates 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 is expressed in the nervous system, lung, liver, blood and skin. Mutations in the VCP gene result in inclusion body myopathy with early-onset Paget and Charcot-Marie-tooth disease type 2. STJ96231 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope specific immunogen. This polyclonal antibody detects endogenous levels of VCP protein.

Model	STJ96231
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IHC, WB
Immunogen	Synthesized peptide derived from human VCP around the non-phosphorylation site of S352.
Immunogen Region	290-370 aa
Gene ID	7415
Gene Symbol	VCP
Dilution range	WB 1:500-1:2000IHC 1:100-1:300ELISA 1:40000

Specificity	VCP Polyclonal Antibody detects endogenous levels of VCP protein.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Transitional endoplasmic reticulum ATPase TER ATPase 15S Mg 2+-ATPase p97 subunit Valosin-containing protein VCP
Molecular Weight	85 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:12666OMIM:167320
Alternative Names	Transitional endoplasmic reticulum ATPase TER ATPase 15S Mg 2+-ATPase p97 subunit Valosin-containing protein VCP
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 . 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 . 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 . Required for cytoplasmic retrotranslocation of stressed/damaged mitochondrial outer-membrane proteins and their subsequent proteasomal degradation . Essential for the maturation of ubiquitin-containing autophagosomes and the clearance of ubiquitinated protein by autophagy . 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 .
Sequence and Domain Family	The PIM (PUB-interaction motif) motif mediates interaction with the PUB domain of RNF31.
Cellular Localization	Cytoplasm, cytosol. Endoplasmic reticulum. Nucleus. Present in the neuronal hyaline inclusion bodies specifically found in motor neurons from amyotrophic lateral sclerosis patients. Present in the Lewy bodies specifically found in neurons from Parkinson disease patients. Recruited to the cytoplasmic surface of the endoplasmic reticulum via interaction with AMFR/gp78. Following DNA double-strand breaks, recruited to the sites of damage. Recruited to stalled replication forks via interaction with SPRTN.
Post-translational Modifications	Phosphorylated by tyrosine kinases in response to T-cell antigen receptor activation. Phosphorylated in mitotic cells. ISGylated. Methylation at Lys-315 catalyzed by VCPKMT is increased in the presence of ASPSCR1. Lys-315 methylation may decrease ATPase activity.