VCP monoclonal antibody

Catalog: MB67027 Host: Mouse Reactivity: Human, Mouse, Rat

BackGround:

Valosin-containing protein (VCP) is a highly conserved and abundant 97 kDa protein that belongs to the AAA (ATPase associated with a variety of cellular activities) family of proteins. VCP assembles as a homo-hexamer, forming a ring with a channel at its center . VCP homo-hexamers associate with a variety of protein cofactors to form many distinct protein complexes, which act as chaperones to unfold proteins and transport them to specific cellular compartments or to the proteosome . These protein complexes participate in many cellular functions, including vesicle transport and fusion, fragmentation and reassembly of the golgi stacks during mitosis, nuclear envelope formation and spindle disassembly following mitosis, cell cycle regulation, DNA damage repair, apoptosis, B and T cell activation, NF-κB-mediated transcriptional regulation, endoplasmic reticulum (ER)-associated degradation, and protein degradation . VCP appears to localize mainly to the endoplasmic reticulum; however, tyrosine phosphorylation is associated with relocalization to the centrosome during mitosis . In addition, following cellular exposure to ionizing radiation, VCP is phosphorylated at Ser784 in an ATM-dependent manner and accumulates in the nucleus at sites of double-stranded DNA breaks (DSBs) . Exposure to other types of DNA damaging agents such as UV light, bleomycin, or doxorubicin results in phosphorylation of VCP by ATR and DNA-PK in an ATM-independent manner .

Product:

Mouse IgG1 kappa. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 95 kDa

Swiss-Prot:

P55072

Purification&Purity:

This antibody is purified through a protein G column.

Applications:

WB (1/500 - 1/2000), IHC (1/50 - 1/200), IF/ICC (1/10 - 1/50), FC (1/10 - 1/50)

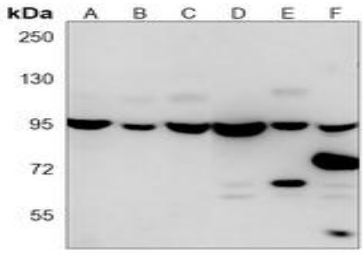
Storage&Stability:

Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

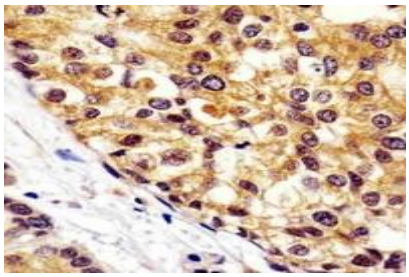
Specificity:

Recognizes endogenous levels of VCP protein.

DATA:



Western blot analysis of VCP expression in Hela (A), K562 (B), A549 (C), C6 (D), U87 MG (E), NIH3T3 (F) whole cell lysates.



Immunohistochemical analysis of VCP staining in human breast carcinoma formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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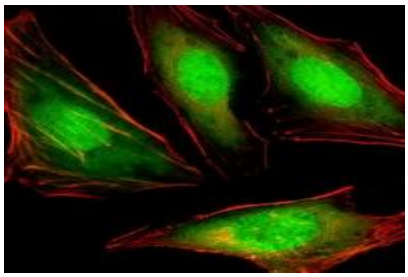
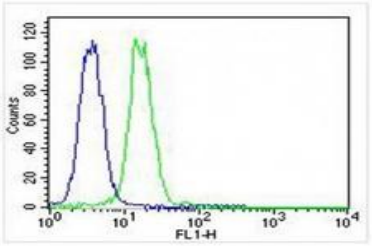


Immunofluorescent analysis of VCP staining in Hela cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 ℃ in a humidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF555 was used to stain the cytoplasm (red). DAPI was used to stain the cell nuclei (blue).



Note:

For research use only, not for use in diagnostic procedure.

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