

# VCP (18): sc-136273

## BACKGROUND

Valosin containing protein (VCP), also designated TERA (for transitional endoplasmic reticulum ATPase) or p97, is a member of the AAA family of ATPases, which are involved in a variety of cellular activities. VCP is the mammalian homolog of *Saccharomyces cerevisiae* Cdc48, a protein essential for the completion of mitosis in yeast. VCP is thought to be involved in a variety of membrane functions and in the regulation of the cell cycle. It associates with ubiquitinated I $\kappa$ B- $\alpha$  as well as with the 26S Proteasome, indicating a potential role for VCP in the proteasome-mediated degradation of I $\kappa$ B- $\alpha$ .

## REFERENCES

1. Egerton, M., et al. 1992. VCP, the mammalian homolog of Cdc48, is tyrosine phosphorylated in response to T cell antigen receptor activation. *EMBO J.* 11: 3533-3540.
2. Egerton, M. and Samelson, L.E. 1994. Biochemical characterization of valosin-containing protein, a protein tyrosine kinase substrate in hematopoietic cells. *J. Biol. Chem.* 269: 11435-11441.
3. Druck, T., et al. 1995. Chromosome localization of human genes for clathrin adaptor polypeptides AP2  $\beta$  and AP50 and the clathrin-binding protein, VCP. *Genomics* 30: 94-97.
4. Confalonieri, F. and Duguet, M. 1995. A 200 amino acid ATPase module in search of a basic function. *Bioessays* 17: 639-650.
5. Madeo, F., et al. 1998. Tyrosine phosphorylation regulates cell cycle-dependent nuclear localization of Cdc48p. *Mol. Biol. Cell* 9: 131-141.
6. Dai, R.M., et al. 1998. Involvement of valosin-containing protein, an ATPase co-purified with I $\kappa$ B- $\alpha$  and 26S Proteasome, in ubiquitin-proteasome-mediated degradation of I $\kappa$ B- $\alpha$ . *J. Biol. Chem.* 273: 3562-3573.
7. Zhang, S.H., et al. 1999. Identification of the cell cycle regulator VCP (p97/Cdc48) as a substrate of the band 4.1-related protein-tyrosine phosphatase PTPH1. *J. Biol. Chem.* 274: 17806-17812.
8. Ishigaki, S., et al. 2004. Physical and functional interaction between Dorfin and valosin-containing protein that are co-localized in ubiquitylated inclusions in neurodegenerative disorders. *J. Biol. Chem.* 279: 51376-51385.

## CHROMOSOMAL LOCATION

Genetic locus: VCP (human) mapping to 9p13.3; Vcp (mouse) mapping to 4 A5.

## SOURCE

VCP (18) is a mouse monoclonal antibody raised against amino acids 9-130 of VCP of mouse origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

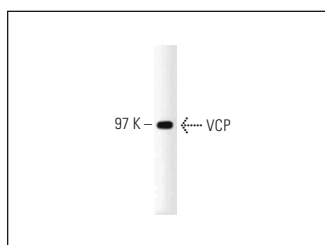
VCP (18) is recommended for detection of VCP of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for VCP siRNA (h): sc-37187, VCP siRNA (m): sc-37188, VCP shRNA Plasmid (h): sc-37187-SH, VCP shRNA Plasmid (m): sc-37188-SH, VCP shRNA (h) Lentiviral Particles: sc-37187-V and VCP shRNA (m) Lentiviral Particles: sc-37188-V.

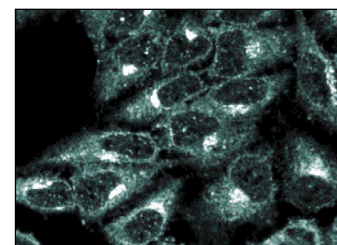
Molecular Weight of VCP: 97 kDa.

Positive Controls: mouse cerebellum extract: sc-2403, MCF7 whole cell lysate: sc-2206 or KNRK whole cell lysate: sc-2214.

## DATA



VCP (18): sc-136273. Western blot analysis of VCP expression in mouse cerebellum tissue extract.



VCP (18): sc-136273. Immunofluorescence staining of HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Fang, J., et al. 2018. Melatonin prevents senescence of canine adipose-derived mesenchymal stem cells through activating Nrf2 and inhibiting ER stress. *Aging* 10: 2954-2972.
2. Zhu, C., et al. 2020. Phospho-Ser784-VCP is required for DNA damage response and is associated with poor prognosis of chemotherapy-treated breast cancer. *Cell Rep.* 31: 107745.

## RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.