

VCP (F-5): sc-133211

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 κ B- α as well as with the 26S Proteasome, indicating a potential role for VCP in the proteasome-mediated degradation of I κ B- α .

REFERENCES

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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 β 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 κ B- α and 26S Proteasome, in ubiquitin-proteasome-mediated degradation of I κ B- α , *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 (F-5) is a mouse monoclonal antibody raised against amino acids 687-806 mapping at the C-terminus of VCP of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

VCP (F-5) is recommended for detection of VCP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

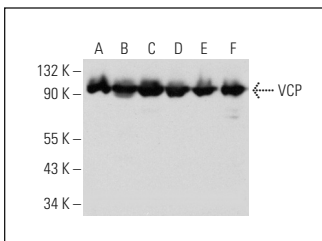
Molecular Weight of VCP: 97 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, A-431 whole cell lysate: sc-2201 or 3T3-L1 cell lysate: sc-2243.

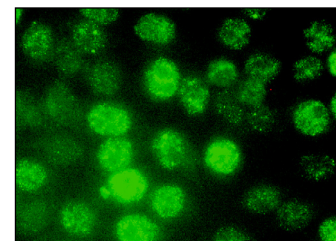
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



VCP (F-5): sc-133211. Western blot analysis of VCP expression in MDA-MB-231 (A), A-431 (B), 3T3-L1 (C), Sol8 (D), KNRK (E) and L8 (F) whole cell lysates.



VCP (F-5): sc-133211. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Yuan, Y., et al. 2022. High salt activates p97 to reduce host antiviral immunity by restricting Viperin induction. *EMBO Rep.* 23: e53466.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.