

VCP (G-8): sc-374055

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

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 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 PTP-H1. *J. Biol. Chem.* 274: 17806-17812.

CHROMOSOMAL LOCATION

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

SOURCE

VCP (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 760-797 near 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.

Blocking peptide available for competition studies, sc-374055 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

VCP (G-8) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

VCP (G-8) is also recommended for detection of VCP in additional species, including equine, canine, bovine and porcine.

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.

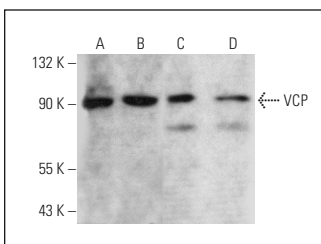
Molecular Weight of VCP: 97 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, A-431 whole cell lysate: sc-2201 or KNRK whole cell lysate: sc-2214.

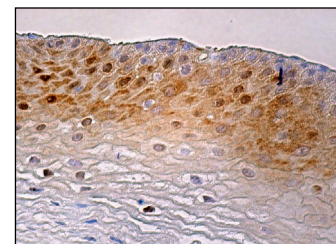
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



VCP (G-8): sc-374055. Western blot analysis of VCP expression in HeLa (A), A-431 (B), PC-12 (C) and KNRK (D) whole cell lysates.



VCP (G-8): sc-374055. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear and cytoplasmic staining of squamous epithelial cells.

STORAGE

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