

VCP (E-4): sc-133125



The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

VCP (E-4) 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 γ_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

VCP (E-4) 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.

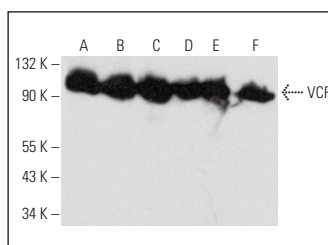
Molecular Weight of VCP: 97 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, A-431 whole cell lysate: sc-2201 or 3T3-L1 cell lysate: sc-2243.

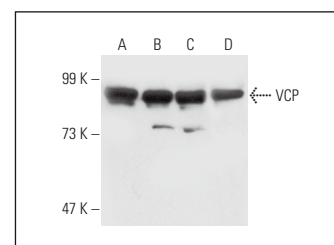
RECOMMENDED SUPPORT REAGENTS

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 (E-4): sc-133125. Western blot analysis of VCP expression in MCF7 (A), A-431 (B), 3T3-L1 (C), Sol8 (D), PC-12 (E) and KNRK (F) whole cell lysates.



VCP (E-4): sc-133125. Western blot analysis of VCP expression in HeLa (A), MDA-MB-231 (B) and NIH/3T3 (C) whole cell lysates and rat brain tissue extract (D).

SELECT PRODUCT CITATIONS

1. Zou, W., et al. 2012. Identification of differentially expressed proteins in the spinal cord of neuropathic pain models with PKC γ silence by proteomic analysis. *Brain Res.* 1440: 34-46.
2. Lopes-Pacheco, M., et al. 2017. Combination of correctors rescues CFTR transmembrane-domain mutants by mitigating their interactions with proteostasis. *Cell. Physiol. Biochem.* 41: 2194-2210.
3. Schimmack, G., et al. 2017. YOD1/TRAF6 association balances p62-dependent IL-1 signaling to NF κ B. *Elife* 6: e22416.
4. Bergbower, E., et al. 2018. The CFTR-associated ligand arrests the trafficking of the mutant Δ F508 CFTR channel in the ER contributing to cystic fibrosis. *Cell. Physiol. Biochem.* 45: 639-655.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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