

# VCP (E-4): sc-133125

## 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.

## 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  $\mu$ g IgG<sub>1</sub> 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  $\mu$ g per 100-500  $\mu$ 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.

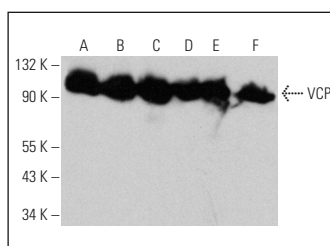
Molecular Weight of VCP: 97 kDa.

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

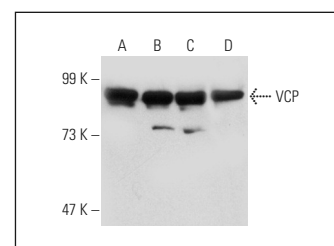
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 $\gamma$  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 $\kappa$ B. *Elife* 6 pii: e22416.
4. Bergbower, E., et al. 2018. The CFTR-associated ligand arrests the trafficking of the mutant  $\Delta$ 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](http://www.scbt.com) for detailed protocols and support products.