

## VCP (D-9): sc-133212



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 $\kappa$ B- $\alpha$  as well as with the 26S Proteasome, indicating a potential role for VCP in the proteasome-mediated degradation of I $\kappa$ B- $\alpha$ .

## CHROMOSOMAL LOCATION

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

## SOURCE

VCP (D-9) 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 $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VCP (D-9) is available conjugated to agarose (sc-133212 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133212 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133212 PE), fluorescein (sc-133212 FITC), Alexa Fluor<sup>®</sup> 488 (sc-133212 AF488), Alexa Fluor<sup>®</sup> 546 (sc-133212 AF546), Alexa Fluor<sup>®</sup> 594 (sc-133212 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-133212 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-133212 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-133212 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

VCP (D-9) 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), 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 (D-9) is also recommended for detection of VCP in additional species, including 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.

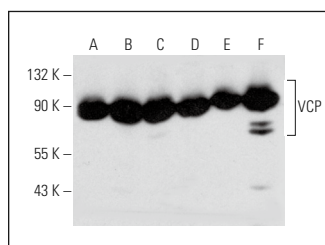
Molecular Weight of VCP: 97 kDa.

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

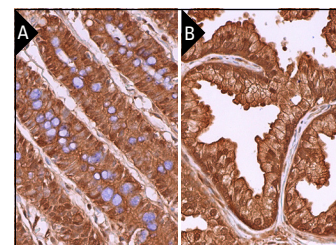
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



VCP (D-9): sc-133212. 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 (D-9): sc-133212. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum (A) and human prostate (B) tissue showing nuclear, cytoplasmic and membrane staining of glandular cells.

## SELECT PRODUCT CITATIONS

- Lee, M.K., et al. 2020. The human cytomegalovirus transmembrane protein pUL50 induces loss of VCP/p97 and is regulated by a small isoform of pUL50. *J. Virol.* 94: e00110-20.
- Hu, X., et al. 2020. RNF126-mediated reubiquitination is required for proteasomal degradation of p97-extracted membrane proteins. *Mol. Cell* 79: 320-331.e9.
- Wang, D., et al. 2021. ATM-phosphorylated SPOP contributes to 53BP1 exclusion from chromatin during DNA replication. *Sci. Adv.* 7: eabd9208.
- Nguyen, T.N., et al. 2021. ATG4 family proteins drive phagophore growth independently of the LC3/GABARAP lipidation system. *Mol. Cell* 81: 2013-2030.e9.

## 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](http://www.scbt.com) for detailed protocols and support products.

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