SANTA CRUZ BIOTECHNOLOGY, INC.

VHL (D-7): sc-55506

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Individuals harboring germline mutations in the tumor suppressor gene von Hippel-Lindau (VHL) exhibit an increased susceptibility to a variety of tumors including renal carcinoma, hemangioblastoma of the central nervous system and pheochromocytoma. The Elongin (SIII) complex has been identified as the functional target of the VHL protein. Elongin (SIII) is a heterotrimer composed of a transcriptional active subunit designated Elongin A and two regulatory subunits designated Elongin B and Elongin C. VHL functions by binding to the Elongin B and C subunits, inhibiting the transcriptional efficacy of the Elongin (SIII) complex. Different isoforms of VHL have been observed, encoded by alternatively spliced transcript variants. The molecular weight of each isoform varies between species.

CHROMOSOMAL LOCATION

Genetic locus: VHL (human) mapping to 3p25.3; Vhl (mouse) mapping to 6 E3.

SOURCE

VHL (D-7) is a mouse monoclonal antibody raised against amino acids 1-181 representing full length VHL (von Hippel-Lindau tumor suppressor protein) of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VHL (D-7) is available conjugated to agarose (sc-55506 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55506 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55506 PE), fluorescein (sc-55506 FITC), Alexa Fluor® 488 (sc-55506 AF488), Alexa Fluor® 546 (sc-55506 AF546), Alexa Fluor® 594 (sc-55506 AF594) or Alexa Fluor® 647 (sc-55506 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55506 AF680) or Alexa Fluor® 790 (sc-55506 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

VHL (D-7) is recommended for detection of VHL of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for VHL siRNA (h): sc-36816, VHL siRNA (m): sc-36817, VHL shRNA Plasmid (h): sc-36816-SH, VHL shRNA Plasmid (m): sc-36817-SH, VHL shRNA (h) Lentiviral Particles: sc-36816-V and VHL shRNA (m) Lentiviral Particles: sc-36817-V.

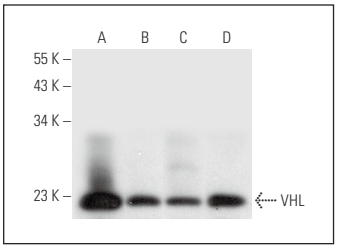
Molecular Weight of VHL isoforms: 18/24 kDa.

Positive Controls: mouse testis extract: sc-2405, mouse brain extract: sc-2253 or RAW 264.7 whole cell lysate: sc-2211.

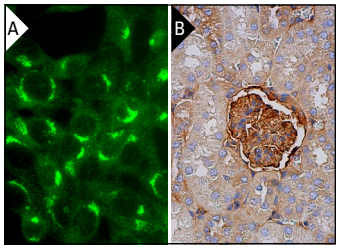
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



VHL (D-7): sc-55506. Western blot analysis of VHL expression in mouse testis (**A**), mouse brain (**B**) and mouse lung (**C**) tissue extracts and RAW 264.7 whole cell lysate (**D**).



VHL (D-7): sc-55506. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing Golgi apparatus localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue showing cytoplasmic staining of cells in glomeruli and endothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Chen, K., et al. 2015. ZBRK1, a novel tumor suppressor, activates VHL gene transcription through formation of a complex with VHL and p300 in renal cancer. Oncotarget 6: 6959-6976.
2. Kang, J., et al. 2018. FIH permits NAA10 to catalyze the oxygen-dependent lysyl-acetylation of HIF-1α. Redox Biol. 19: 364-374.
3. Lee, H.J., et al. 2019. O-cyclic phytosphingosine-1-phosphate stimulates HIF1α-dependent glycolytic reprogramming to enhance the therapeutic potential of mesenchymal stem cells. Cell Death Dis. 10: 590.
4. Bouhamdani, N., et al. 2019. Targeting lysosome function causes selective cytotoxicity in VHL-inactivated renal cell carcinomas. Carcinogenesis. E-published.
5. GroB, A., et al. 2020. Deletion of von Hippel-Lindau interferes with hyper osmolality induced gene expression and induces an unfavorable gene expression pattern. Cancers 12 pii: E420.

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.