

#2738 Store at -20°C

# VHL Antibody

100 µl  
 (10 Western mini-blot)



**Orders** ■ 877-616-CELL (2355)  
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**Support** ■ 877-678-TECH (8324)  
 info@cellsignal.com  
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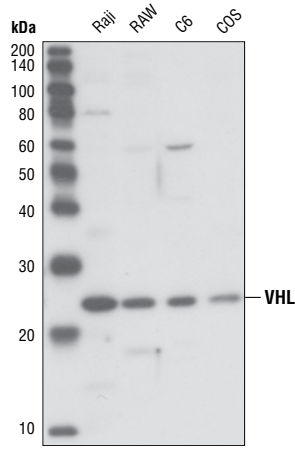
This product is for *in vitro* research use only and is not intended for use in humans or animals.  
 This product is not intended for use as a therapeutic or in diagnostic procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IF-IC Endogenous	H, M, R, Mk, (B, Cat)	24 kDa	Rabbit**

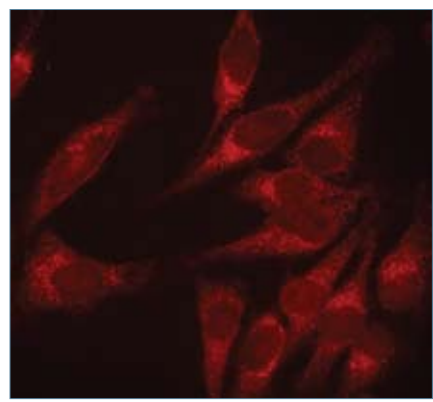
**Background:** The Von Hippel-Lindau (VHL) protein is a substrate recognition component of an E3 ubiquitin ligase complex containing elongin BC (TCEB1 and TCEB2), cullin 1 (CUL1), and RING-box protein 1 (RBX1) (1,2,3). VHL protein has been shown to exist as three distinct isoforms resulting from alternatively spliced transcript variants (4). Loss of VHL protein function results in a dominantly inherited familial cancer syndrome that manifests as angiomas of the retina, hemangioblastomas of the central nervous system, renal clear-cell carcinomas and pheochromocytomas (4). Under normoxic conditions, VHL directs the ubiquitylation and subsequent proteosomal degradation of the hypoxia inducible factor HIF  $\alpha$ , maintaining very low levels of HIF  $\alpha$  in the cell. Cellular exposure to hypoxic conditions, or loss of VHL protein function, results in increased HIF  $\alpha$  protein levels and increased expression of HIF-induced gene products, many of which are angiogenesis factors such as vascular endothelial growth factor (VEGF). Thus, loss of VHL protein function is believed to contribute to the formation of highly vascular neoplasias (4). In addition to HIF  $\alpha$ , VHL is known to regulate the ubiquitylation of several other proteins, including tat-binding protein 1 (TBP-1), the atypical protein kinase C lambda (aPKC), and two subunits of the multiprotein RNA Polymerase II complex (RPB1 and RPB7) (5,6,7,8). Interactions with elongin BC, RPB1, RPB7 and the pVHL-associated KRAB-A domain containing protein (VHLAK) suggest that VHL may also play a more direct role in transcriptional repression.

**Specificity/Sensitivity:** This antibody detects endogenous levels of total VHL protein (isoforms 1, 2 and 3).

**Source/Purification:** Polyclonal antibodies are produced by immunizing rabbits with a synthetic peptide (KLH-coupled) corresponding to amino acids from the human VHL protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of lysates from Raji, RAW, C6 and COS cells using VHL antibody.



Immunofluorescent analysis of HeLa cells, using VHL antibody.

**Entrez-Gene ID** #7428  
**Swiss-Prot Acc.** #P40337

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**\*Species cross-reactivity is determined by Western blot.**  
**\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.**

**Recommended Antibody Dilutions:**  
 Western blotting 1:1000  
 Immunofluorescence (IF-IC) 1:25

**For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).**

**Companion Products:**  
 Ubiquitin (P4D1) Mouse mAb #3936  
 UBC3B Antibody #4996  
 UBC3 Antibody #4997  
 CUL1 Antibody #4995  
 Skp2 Antibody #4358

Phototope-HRP Western Blot Detection System,  
 Anti-rabbit IgG, HRP-linked Antibody #7071  
 Anti-rabbit IgG, HRP-linked Antibody #7074  
 Prestained Protein Marker, Broad Range (Premixed Format) #7720  
 Biotinylated Protein Ladder Detection Pack #7727  
 20X LumiGLO® Reagent and 20X Peroxide #7003

**Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.**

**Background References:**  
 (1) Kibel, A. et al. (1995) *Science* 269, 1444-6.  
 (2) Pause, A. et al. (1997) *Proc. Natl. Acad. Sci. USA* 94, 2156-61.  
 (3) Kamura, T. et al. (2000) *Proc. Natl. Acad. Sci. USA* 97, 10430-5.  
 (4) Czyzyk-Krzeska, M.F. and Meller, J. (2004) *Trends. Mol. Med.* 10, 146-9.  
 (5) Corn, P.G. et al. (2003) *Nat. Genet.* 35, 229-37.  
 (6) Na, X. et al. (2003) *EMBO J.* 22, 4249-59.  
 (7) Kuznetsova, A.V. et al. (2003) *Proc. Natl. Acad. Sci. USA* 100, 2706-11.  
 (8) Li, Z. et al. (2003) *EMBO J.* 22, 1857-67.

**IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.**

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebra fish B—bovine  
 Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.