

Product Information

Anti-VHL (C-terminal)

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200285**

Product Description

Anti-VHL (C-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence located at the C-terminus of human VHL (GeneID: 7428), conjugated to KLH. The corresponding sequence is identical in human VHL isoform 2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-VHL (C-terminal) specifically recognizes human VHL. The antibody may be used in various applications including immunoblotting (~27 kDa), immunofluorescence and immunohistochemistry. An additional band of ~19 kDa may be observed by immunoblotting in some cell extracts. Detection of the VHL band by immunoblotting is specifically inhibited by the VHL immunizing peptide.

VHL (also known as VHL1, HRCA1, RCA1) is a tumor suppressor gene that has been implicated in the rare inherited disorder von Hippel-Lindau (VHL) disease. Remarkably, VHL is inactivated in >80% of sporadic clear-cell renal carcinomas (RCCs). Mutations or transcriptional inactivation of the VHL gene have been widely demonstrated in the majority of cases of RCC.^{1,2} The human VHL gene encodes a 231-residue protein (VHL30) and a second VHL protein (VHL19) resulting from internal translational initiation. VHL is associated with the repression of transcription elongation, via its interaction with the elongin B/C heterodimer. VHL is a critical regulator of the oxygen-sensing pathway mediated by hypoxia-inducible factor (HIF). VHL acts as part of an E3 ubiquitin ligase, that targets HIF α for rapid proteasomal degradation under normoxic conditions.³ The dysregulated expression of these factors is thought to contribute to the vascularization of tumors associated with VHL disease. VHL is inactivated by hypoxic stress itself through PIASy-mediated SUMO modification, which induces VHL oligomerization and abrogates its inhibitory function on tumor cell growth and migration.⁴ VHL has been shown to negatively regulate HIF α -independent transcriptional pathways, including linking CKII kinase with CARD9 for inhibition

of NF- κ B pathway, and stabilizing Jade-1 for proteasomal degradation of β -catenin.^{5,6} VHL has been also identified as a key regulator of microtubule dynamic instability.⁷

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 μ g/mL is recommended using cell lysates of HEK-293T cells over-expressing human VHL.

Immunofluorescence: a working concentration of 5-10 μ g/mL is recommended using HeLa cells.

Immunohistochemistry: a working concentration of 10-20 μ g/mL is recommended using formalin-fixed paraffin-embedded human kidney.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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5. Yang, H., et al., *Mol. Cell*, **28**, 15-27 (2007).
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