3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-VHL
produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200434**

Product Description

Anti-VHL is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence near the C-terminus of human VHL (GeneID: 7428), conjugated to KLH. The corresponding sequence is identical in human VHL isoform 2 and highly conserved (94% sequence identity) in rat VHL. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-VHL specifically recognizes human VHL. The antibody may be used in various immunochemical techniques including immunoblotting (~30 kDa), immunoprecipitation and immunofluorescence. 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 has 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 HIFα for rapid proteasomal degradation under normoxic conditions.[3] The dysregulated expression of these factors is thought to contribute to the vascularization of tumours 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 HIFα-independent transcriptional pathways, including linking CKII kinase with CARD9 for inhibition of NF-κB 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: ~1.0 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 1.5-3.0 μg/mL is recommended using lysates of HEK-293T cells over-expressing human VHL.

Immunoprecipitation: a working amount of 5-10 μg is recommended using lysates of HEK-293T cells over-expressing human VHL.

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

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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