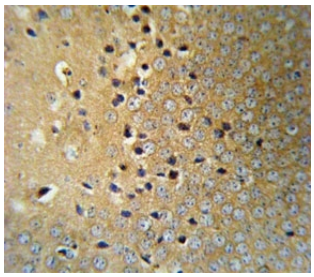
VHL Antibody / Tumor Suppressor Protein Antibody (F49681)

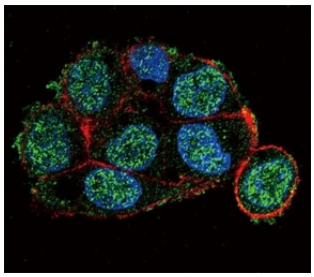
Catalog No.	Formulation	Size
F49681-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F49681-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

Bulk quote request

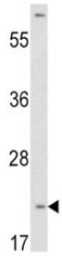
Availability	1-3 business days
Species Reactivity	Human, Mouse
Predicted Reactivity	Rat
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Purified
UniProt	P40337
Applications	Western blot: 1:1000 IHC (Paraffin): 1:10-1:50 Immunofluorescence: 1:10-1:50 Flow Cytometry: 1:10-1:50
Limitations	This VHL Antibody / Tumor Suppressor Protein Antibody is available for research use only.



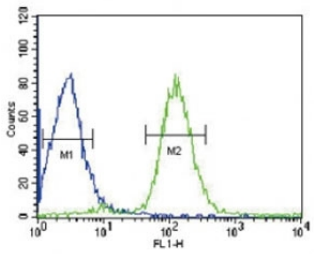
VHL Antibody Mouse Brain IHC. Immunohistochemistry staining of FFPE mouse brain tissue using VHL antibody demonstrates widespread cytoplasmic staining throughout neuronal populations, consistent with expression of Von Hippel-Lindau protein (VHL). VHL is a tumor suppressor protein that regulates hypoxia-inducible factor (HIF) signaling and plays a central role in cellular oxygen sensing, metabolic adaptation, and maintenance of cellular homeostasis. The observed staining pattern is consistent with the established role of VHL in regulating oxygen-responsive pathways within metabolically active neural tissues. These findings support the utility of VHL antibody for studies of hypoxia signaling, HIF regulation, and tumor suppressor-associated cellular pathways in the nervous system.



VHL Antibody HepG2 Cell IF. Immunofluorescent staining of HepG2 cells using VHL antibody demonstrates punctate cytoplasmic and perinuclear localization of Von Hippel-Lindau protein (VHL), shown in green. VHL is a tumor suppressor protein that regulates hypoxia-inducible factor (HIF) signaling and serves as a critical component of cellular oxygen-sensing pathways. The observed intracellular distribution is consistent with the role of VHL in protein degradation complexes and regulation of hypoxia-responsive signaling networks. Actin filaments are visualized with Alexa Fluor 555 Phalloidin (red), while DAPI (blue) identifies cell nuclei. The staining pattern supports the utility of VHL antibody for studies of tumor suppression, hypoxia signaling, and oxygen homeostasis pathways.



VHL Antibody HepG2 WB. Western blot analysis of HepG2 cell lysate using VHL antibody demonstrates detection of an immunoreactive band at approximately 18-20 kDa, consistent with the expected molecular weight of Von Hippel-Lindau protein (VHL). VHL is a tumor suppressor protein that functions as a key regulator of hypoxia-inducible factor (HIF) signaling and cellular oxygen-sensing pathways. Through its role in an E3 ubiquitin ligase complex, VHL controls degradation of HIF proteins and helps maintain normal cellular responses to oxygen availability. The observed band supports the utility of this antibody for studies of tumor suppression, hypoxia signaling, oxygen homeostasis, and HIF-regulated cellular pathways. Predicted molecular weight: ~18-24 kDa.



VHL Antibody HepG2 Flow Cytometry. Flow cytometric analysis of HepG2 cells using VHL antibody demonstrates a clear rightward shift of the green histogram (VHL antibody) relative to the blue histogram (negative control), consistent with expression of Von Hippel-Lindau protein (VHL). VHL is a tumor suppressor protein that regulates hypoxia-inducible factor (HIF) signaling and serves as a central component of cellular oxygen-sensing pathways. The observed staining pattern supports detection of endogenous VHL expression and demonstrates the utility of this antibody for studies of tumor suppression, hypoxia signaling, oxygen homeostasis, and HIF-regulated cellular responses. A FITC-conjugated goat anti-rabbit secondary antibody was used for detection.

Description

VHL Antibody / Tumor Suppressor Protein Antibody is designed for the detection and study of VHL (Von Hippel-Lindau protein), a highly conserved tumor suppressor that plays a central role in regulating cellular responses to oxygen availability. VHL functions as a key component of an E3 ubiquitin ligase complex that targets hypoxia-inducible factor (HIF) proteins for degradation under normal oxygen conditions. Through this activity, VHL serves as a critical regulator of hypoxia signaling, oxygen homeostasis, and cellular adaptation pathways that influence numerous aspects of normal physiology and disease biology.

As a tumor suppressor protein, VHL helps maintain appropriate control of cellular growth, survival, and metabolic activity. Under normoxic conditions, VHL-mediated degradation of HIF proteins prevents inappropriate activation of hypoxia-responsive gene expression programs. When oxygen levels decline, HIF proteins accumulate and stimulate transcriptional pathways involved in angiogenesis, metabolism, erythropoiesis, and cellular adaptation. Tight regulation of this oxygen-sensing system is essential for maintaining tissue homeostasis and coordinating physiologic responses to environmental conditions.

The VHL gene is one of the most extensively studied tumor suppressor genes in human biology. Loss of VHL function results in dysregulated hypoxia signaling and altered expression of genes involved in vascular growth, metabolism, and cellular proliferation. Because of its central position within oxygen-sensing pathways, VHL has become a major focus of research examining mechanisms of tumor development, angiogenesis, and cellular adaptation to microenvironmental

stress. Studies of VHL have significantly advanced understanding of how oxygen availability influences both normal cellular function and disease progression.

Beyond its role in hypoxia regulation, VHL participates in broader pathways governing protein turnover, extracellular signaling, cellular differentiation, and maintenance of tissue architecture. The protein influences numerous biologic processes through both HIF-dependent and HIF-independent mechanisms, making it an important target for investigations of developmental biology, vascular biology, metabolism, and cell signaling. Its diverse functional roles have established VHL as a key molecular regulator at the intersection of environmental sensing and cellular homeostasis.

As a tumor suppressor protein, VHL remains one of the most important research targets in studies of cancer biology and hypoxia-associated signaling pathways. Researchers continue to investigate how VHL regulates cellular responses to oxygen availability and how disruption of these mechanisms contributes to pathologic processes. The highly conserved nature of VHL function further supports its value as a research marker across multiple biologic systems.

VHL Antibody is useful for investigating tumor suppression, hypoxia signaling, HIF regulation, oxygen sensing, and cellular homeostasis pathways. Researchers utilize VHL Antibody reagents to evaluate protein expression patterns and study molecular mechanisms governing angiogenesis, metabolic adaptation, vascular development, and maintenance of normal cellular function.

Explore additional antibodies to tumor suppressors, hypoxia signaling proteins, and cancer biology markers on our Cancer Antibodies page.

Application Notes

Titration of the VHL Antibody / Tumor Suppressor Protein Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 43-71 from the human protein was used as the immunogen for this VHL antibody.

Storage

Aliquot the VHL antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

VHL Antibody, Von Hippel-Lindau Protein Antibody, Tumor Suppressor Protein Antibody, HIF Regulator Antibody, Hypoxia Response Protein Antibody, Oxygen Sensing Protein Antibody, E3 Ubiquitin Ligase Complex Protein Antibody

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