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# Phospho-KDR/FLK1(Y996) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3107a

## Product Information

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| **Application** | WB, IHC-P, E |
| **Primary Accession** | P35968 |
| **Reactivity** | Human, Rat, Mouse |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Calculated MW** | 151527 |

## Additional Information

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| **Gene ID** | 3791 |
| **Other Names** | Vascular endothelial growth factor receptor 2, VEGFR-2, Fetal liver kinase 1, FLK-1, Kinase insert domain receptor, KDR, Protein-tyrosine kinase receptor flk-1, CD309, KDR, FLK1, VEGFR2 |
| **Target/Specificity** | This KDR/FLK1 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Y996 of human KDR/FLK1. |
| **Dilution** | WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | Phospho-KDR/FLK1(Y996) Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | KDR ( HGNC:6307) |
| **Synonyms** | FLK1, VEGFR2 |
| **Function** | Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFA, VEGFC and VEGFD. Plays an essential role in the regulation of angiogenesis, vascular development, vascular permeability, and embryonic hematopoiesis. Promotes proliferation, survival, migration and differentiation of endothelial |

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| | cells. Promotes reorganization of the actin cytoskeleton. Isoforms lacking a transmembrane domain, such as isoform 2 and isoform 3, may function as decoy receptors for VEGFA, VEGFC and/or VEGFD. Isoform 2 plays an important role as negative regulator of VEGFA- and VEGFC-mediated lymphangiogenesis by limiting the amount of free VEGFA and/or VEGFC and preventing their binding to FLT4. Modulates FLT1 and FLT4 signaling by forming heterodimers. Binding of vascular growth factors to isoform 1 leads to the activation of several signaling cascades. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate and the activation of protein kinase C. Mediates activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. Mediates phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, reorganization of the actin cytoskeleton and activation of PTK2/FAK1. Required for VEGFA-mediated induction of NOS2 and NOS3, leading to the production of the signaling molecule nitric oxide (NO) by endothelial cells. Phosphorylates PLCG1. Promotes phosphorylation of FYN, NCK1, NOS3, PIK3R1, PTK2/FAK1 and SRC. |
| **Cellular Location** | Cell junction. Endoplasmic reticulum. Cell membrane. Note=Localized with RAP1A at cell-cell junctions (By similarity). Colocalizes with ERN1 and XBP1 in the endoplasmic reticulum in endothelial cells in a vascular endothelial growth factor (VEGF)-dependent manner (PubMed:23529610). {ECO:0000250, ECO:0000269\|PubMed:23529610} [Isoform 2]: Secreted. |
| **Tissue Location** | Detected in cornea (at protein level). Widely expressed. |

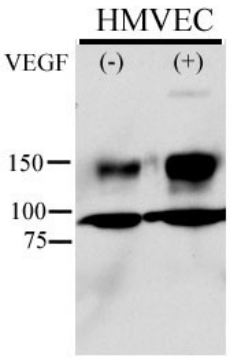
## Background

KDR (FLK1) is a receptor for VEGF or VEGFC. This protein has a tyrosine-protein kinase activity. The VEGF-kinase ligand/receptor signaling system plays a key role in vascular development and regulation of vascular permeability.

## References

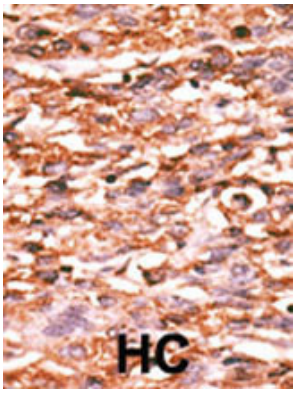

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## Images




Anti-Phospho-KDR/FLK1-Y996 Pab (Cat. #AP3107a) is used in Western blot to detect Phospho-KDR/FLK1-Y996 in HMVEC cell line lysate. Endothelial cells were stimulated with 50ug/ml VEGF for 5min; 20ug lysate from HMVEC was loaded onto an 8% gel; for Western blot, membranes were incubated O/N with Phospho-KDR/FLK1-Y996 Antibody (AP3107a)diluted to 1:500 in 1% Milk/TBST. Data and Protocol kindly provided by Dr. Weis from Cheresh Lab, UCSD.

Formalin-fixed and paraffin-embedded human cancer




tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

## Citations

- VEGFR-1 regulates adult olfactory bulb neurogenesis and migration of neural progenitors in the rostral migratory stream in vivo.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.