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VGFR1 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9312a

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	P17948
Other Accession	NP_002010
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB16736
Calculated MW	150769

Additional Information

Gene ID	2321
Other Names	Vascular endothelial growth factor receptor 1, VEGFR-1, Fms-like tyrosine kinase 1, FLT-1, Tyrosine-protein kinase FRT, Tyrosine-protein kinase receptor FLT, FLT, Vascular permeability factor receptor, FLT1, FLT, FRT, VEGFR1
Target/Specificity	This VGFR1 antibody is generated from rabbits immunized with human VGFR1 recombinant protein.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	VGFR1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FLT1
Synonyms	FLT, FRT, VEGFR1
Function	Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFA,

	VEGFB and PGF, and plays an essential role in the development of embryonic vasculature, the regulation of angiogenesis, cell survival, cell migration, macrophage function, chemotaxis, and cancer cell invasion. Acts as a positive regulator of postnatal retinal hyaloid vessel regression (By similarity). May play an essential role as a negative regulator of embryonic angiogenesis by inhibiting excessive proliferation of endothelial cells. Can promote endothelial cell proliferation, survival and angiogenesis in adulthood. Its function in promoting cell proliferation seems to be cell-type specific. Promotes PGF-mediated proliferation of endothelial cells, proliferation of some types of cancer cells, but does not promote proliferation of normal fibroblasts (in vitro). Has very high affinity for VEGFA and relatively low protein kinase activity; may function as a negative regulator of VEGFA signaling by limiting the amount of free VEGFA and preventing its binding to KDR. Modulates KDR signaling by forming heterodimers with KDR. Ligand binding leads to the activation of several signaling cascades. Activation of PLCG leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate and the activation of protein kinase C. Mediates phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, leading to activation of phosphatidylinositol kinase and the downstream signaling pathway. Mediates activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. Phosphorylates SRC and YES1, and may also phosphorylate CBL. Promotes phosphorylation of AKT1 at 'Ser-473'. Promotes phosphorylation of PTK2/FAK1 (PubMed:16685275).
Cellular Location	[Isoform 1]: Cell membrane; Single-pass type I membrane protein. Endosome. Note=Autophosphorylation promotes ubiquitination and endocytosis [Isoform 3]: Secreted. [Isoform 5]: Cytoplasm. [Isoform 7]: Cytoplasm.
Tissue Location	Detected in normal lung, but also in placenta, liver, kidney, heart and brain tissues. Specifically expressed in most of the vascular endothelial cells, and also expressed in peripheral blood monocytes. Isoform 2 is strongly expressed in placenta. Isoform 3 is expressed in corneal epithelial cells (at protein level). Isoform 3 is expressed in vascular smooth muscle cells (VSMC)

Background

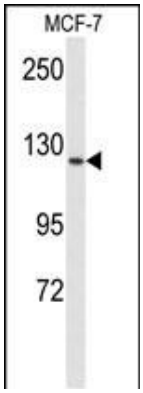
VGFR1 encodes a member of the vascular endothelial growth factor receptor (VEGFR) family. VEGFR family members are receptor tyrosine kinases (RTKs) which contain an extracellular ligand-binding region with seven immunoglobulin (Ig)-like domains, a transmembrane segment, and a tyrosine kinase (TK) domain within the cytoplasmic domain. This protein binds to VEGFR-A, VEGFR-B and placental growth factor and plays an important role in angiogenesis and vasculogenesis. Expression of this receptor is found in vascular endothelial cells, placental trophoblast cells and peripheral blood monocytes.

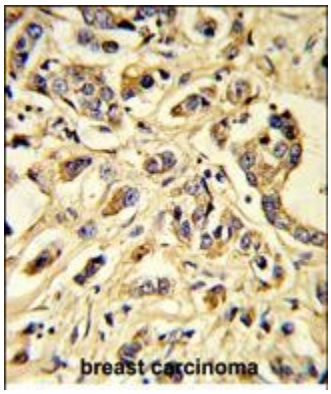
References

Srinivas,S.K., et.al., Am. J. Obstet. Gynecol. 202 (5), 445 (2010)
Gomez,L.M., et.al., Am. J. Obstet. Gynecol. 202 (4), 386 (2010)
Al-Ani,B., et.al., Hypertension 55 (3), 689-697 (2010)
Wong,N.S., et.al., J. Clin. Oncol. 28 (5), 723-730 (2010)

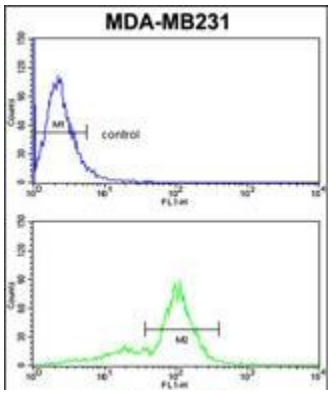
Images

Western blot analysis of VGFR1 Antibody (Cat. #AP9312a) in MCF-7 cell line lysates (35ug/lane). VGFR1 (arrow) was detected using the purified Pab.





Formalin-fixed and paraffin-embedded human breast carcinoma reacted with VGFR1 Antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



VGFR1 Antibody (Cat. #AP9312a) flow cytometric analysis of MDA-MB231 cells (bottom histogram) compared to a negative control cell (top histogram)FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- High VEGFR1/2 expression levels are predictors of poor survival in patients with cervical cancer.