VEGFR1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	VEGFR1, Polyclonal Antibody
Full Product Name	VEGFR1 Antibody BIOTIN-Conjugated
Product Gene Name	anti-VEGFR1 antibody
Product Synonym Names	EC 2.7.10.1; FLT; FLT1; Fms like tyrosine kinase 1; Fms related tyrosine kinase 1; Fms related tyrosine kinase 1 (vascular endothelial growth factor/vascular permeability factor receptor); FRT; Soluble VEGF receptor 1 14; Soluble VEGFR1 variant 2; Soluble VEGFR1 variant 21; Tyrosine protein kinase FRT; Tyrosine protein kinase receptor FLT; Vascular endothelial growth factor vascular permeability factor receptor; Vascular permeability factor receptor 1; VEGFR1 antibody
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Monkey
Form/Format	BIOTIN-Conjugated
Concentration	0.5-1.5 ug/ul in antibody stabilization buffer (lot specific)
Preparation and Storage	-20• degree C for long term storage
Matching Pairs	Antibody: VEGFR1 (MBS5400221) Positive Control: VEGFR1 (MBS543371)
Antibody/Peptide Pairs	VEGFR1 peptide (MBS544646) is used for blocking the activity of VEGFR1 antibody (MBS5400221)
Molecular Weight	41,175 Da
OMIM	165070
3D Structure	ModBase 3D Structure for P17948
Immunogen	Synthetic peptide taken within amino acid region 1250-1300 on human Vascular endothelial growth factor receptor 1 protein.
Immunoglobulin	IgG
Expression	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).
Molecular Function	Developmental protein, Kinase, Receptor, Transferase, Tyrosine-protein kinase
Structure	The second and third Ig-like C2-type (immunoglobulin-like) domains are sufficient for VEGFA binding. Belongs to the protein kinase superfamily. Tyr protein kinase family. CSF-1/PDGF receptor subfamily. Contains 7 Ig-like C2-type (immunoglobulin-like) domains. Contains 1 protein kinase domain.
Subcellular Location	Isoform 1 :Cell membrane; Single-pass type I membrane protein Endosome Note: Autophosphorylation promotes ubiquitination and endocytosis. Isoform 2 :Secreted 1 Publication Isoform 3 :Secreted Isoform 4 :Secreted Isoform 5 :Cytoplasm Curated Isoform 6 :Cytoplasm Curated Isoform 7 :Cytoplasm Curated

Applications Tested/Suitable for anti-VEGFR1 antibody	ELISA (EIA), Immunohistochemistry (IHC), Immunoprecipitation (IP), Western Blot (WB)
Application Notes for anti-VEGFR1 antibody	ELISA: 1:50,000 Immunoprecipitation: 1:200 Western Blot: 1:2,500-1:5,000
Related Product Information for anti-VEGFR1 antibody	BIOTIN-Conjugated Vascular Endothelial Growth Factor Receptor 1 Antibody 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. 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. Likewise, isoforms lacking a transmembrane domain, such as isoform 2, isoform 3 and isoform 4, may function as decoy receptors for VEGFA. 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. Isoform 1 phosphorylates PLCG. Promotes phosphorylation of AKT1 at 'Ser-473'. Promotes phosphorylation of PTK2/FAK1. Isoform 7 has a truncated kinase domain; it increases phosphorylation of SRC at 'Tyr-418' by unknown means and promotes tumor cell invasion.
Other Notes	Small volumes of anti-VEGFR1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for VEGFR1 purchase	MBS5400221 is an antibody targeting VEGFR1. Also known as VEGFR1 Antibody BIOTIN-Conjugated. Reactive in Human, Monkey. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for VEGFR1. It may not necessarily be applicable to this product.

NCBI GI #	143811474
NCBI GeneID	2321
NCBI Accession #	P17948.2
UniProt Primary Accession #	P17948
UniProt Secondary Accession #	O60722; A3E342; A3E344; A8KA71; B0LPF1; B2BF46; B2BF47; B2BF48; B3FR89; B5A923; F5H5L6
UniProt Related Accession #	P17948
NCBI Official Full Name	Vascular endothelial growth factor receptor 1
NCBI Official Synonym Full Names	fms related tyrosine kinase 1
NCBI Official Symbol	FLT1
NCBI Official Synonym Symbols	FLT; FLT-1; VEGFR1; VEGFR-1
UniProt Protein Name	Vascular endothelial growth factor receptor 1
UniProt Synonym Protein Names	Fms-like tyrosine kinase 1; FLT-1; Tyrosine-protein kinase FRT; Tyrosine-protein kinase receptor FLT; FLT; Vascular permeability factor receptor
UniProt Gene Name	FLT1
UniProt Synonym Gene Names	FLT; FRT; VEGFR1; VEGFR-1; FLT-1; FLT

UniProt Entry Name	VGFR1_HUMAN
NCBI Protein Information	vascular endothelial growth factor receptor 1
NCBI Summary for VEGFR1	This gene 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. Multiple transcript variants encoding different isoforms have been found for this gene. Isoforms include a full-length transmembrane receptor isoform and shortened, soluble isoforms. The soluble isoforms are associated with the onset of pre-eclampsia.[provided by RefSeq, May 2009]
UniProt Comments for VEGFR1	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. 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. Likewise, isoforms lacking a transmembrane domain, such as isoform 2, isoform 3 and isoform 4, may function as decoy receptors for VEGFA. 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. Isoform 1 phosphorylates PLCG. Promotes phosphorylation of AKT1 at 'Ser-473'. Promotes phosphorylation of PTK2/FAK1. Isoform 7 has a truncated kinase domain; it increases phosphorylation of SRC at 'Tyr-418' by unknown means and promotes tumor cell invasion.
Research Articles on VEGFR1	**1.** PEDF binds VEGFR-1 and VEGFR-2 in vascular endothelial cells.
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