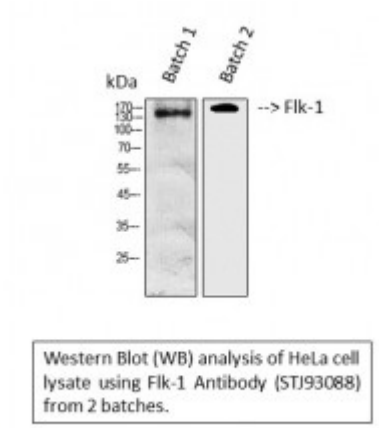
Anti-Flk-1 antibody



Western Blot (WB) analysis of HeLa cell lysate using Flk-1 Antibody (STJ93088) from 2 batches.

Description	Flk-1 is a protein encoded by the KDR gene which is approximately 151,5 kDa. Flk-1 isoform 1 is localised to the cell membrane and isoform 2 and 3 are secreted. It is involved in apoptotic pathways, the GPCR pathway, ERK signalling and the CREB pathway. This receptor is one of two type III receptor tyrosine kinase that functions as the main mediator of VEGF-induced endothelial proliferation, survival, migration, tubular morphogenesis and sprouting. The signalling and trafficking of this receptor are regulated by multiple factors, including Rab GTPase, P2Y purine nucleotide receptor. Flk-1 is widely expressed in human tissues including the cornea. Mutations in the KDR gene may result in hemangioma. STJ93088 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of Flk-1 protein.

Model	STJ93088
Host	Rabbit
Reactivity	Human, Mouse
Applications	ELISA, IF, IHC, WB
Immunogen	Synthesized peptide derived from human Flk-1 around the non-phosphorylation site of Y951.
Immunogen Region	890-970 aa
Gene ID	3791
Gene Symbol	KDR
Dilution range	WB 1:500-1:2000IHC 1:100-1:300IF 1:200-1:1000ELISA 1:20000

Specificity	Flk-1 Polyclonal Antibody detects endogenous levels of Flk-1 protein.
Tissue Specificity	Detected in cornea (at protein level). Widely expressed.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	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 CD antigen CD309
Molecular Weight	151 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:6307OMIM:191306
Alternative 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 CD antigen CD309
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 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.
Sequence and Domain Family	The second and third Ig-like C2-type (immunoglobulin-like) domains are sufficient for VEGFC binding.
Cellular Localization	Cell junction Endoplasmic reticulum. Localized with RAP1A at cell-cell

	junctions . Colocalizes with ERN1 and XBP1 in the endoplasmic reticulum in endothelial cells in a vascular endothelial growth factor (VEGF)-dependent manner . Isoform 1: Cell membrane. Single-pass type I membrane protein. Cytoplasm. Nucleus. Cytoplasmic vesicle. Early endosome. Detected on caveolae-enriched lipid rafts at the cell surface. Is recycled from the plasma membrane to endosomes and back again. Phosphorylation triggered by VEGFA binding promotes internalization and subsequent degradation. VEGFA binding triggers internalization and translocation to the nucleus.. Isoform 2: Secreted Isoform 3: Secreted.
Post-translational Modifications	N-glycosylated. Ubiquitinated. Tyrosine phosphorylation of the receptor promotes its poly-ubiquitination, leading to its degradation via the proteasome or lysosomal proteases. Autophosphorylated on tyrosine residues upon ligand binding. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit. Phosphorylation at Tyr-951 is important for interaction with SH2D2A/TSAD and VEGFA-mediated reorganization of the actin cytoskeleton. Phosphorylation at Tyr-1175 is important for interaction with PLCG1 and SHB. Phosphorylation at Tyr-1214 is important for interaction with NCK1 and FYN. Dephosphorylated by PTPRB. Dephosphorylated by PTPRJ at Tyr-951, Tyr-996, Tyr-1054, Tyr-1059, Tyr-1175 and Tyr-1214. The inhibitory disulfide bond between Cys-1024 and Cys-1045 may serve as a specific molecular switch for H(2)S-induced modification that regulates VEGFR2 function.