



Recombinant Human Vascular endothelial growth factor receptor 2 (KDR), partial

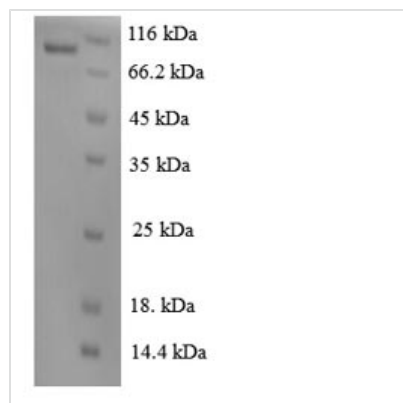
Product Code	CSB-EP012145HU
Relevance	<p>Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFA, VEGFC and VEGFD. Plays an essential role in the regulation of angiogenesis, vascular development, vascular permeability, and bryonic hatopoiesis. Promotes proliferation, survival, migration and differentiation of endothelial cells. Promotes reorganization of the actin cytoskeleton. Isoforms lacking a transbrane 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</p>
Abbreviation	Recombinant Human KDR protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P35968
Alias	Fetal liver kinase 1 ;FLK-1Kinase insert domain receptor ;KDRProtein-tyrosine kinase receptor flk-1; CD309
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	<p>ASVGLPSVSLDLPRLSIQKDILTIKANTTLQITCRGQRDLWLWPNNQSGSEQR VEVTECSDGLFCKTLTIPKVGINDTGAYKCFYRETDLASVIYVYVQDYRSPFIAS VSDQHGVVYITENKNKTVVIPCLGSISNLNVSLCARYPEKRFVDPGNRISWDSK KGFTIPSYMISYAGMVFCEAKINDESYQSIMYIVVVVGYRIYDVLSPSHGIELS VGEKLVLNCTARTELVGIDFNWEYPSSKHQHKLVNRDLKTQSGSEMKKFL STLTIDGVTRSDQGLYTCAASSGLMTKKNSTFVRVHEKPFVAFGSGMESLVEA TVGERVRIPAKYLGYPPEIKWYKNGIPLESNHTIKAGHVLTIMEVSRDTGNY</p>



TVILTNPISKEKQSHVVSLLVYVPPQIGEKSLISPVDSYQYGTTQTLTCTVYAIPP
PHHHHWYWQLEEECANEPSQAVSVTNYPCEEWRSEDFQGGNKIEVNKNQ
FALIEGKNKTVSTLVIQAANVSALYKCEAVNKKVGRGERVISFHVTRGPEITLQPD
MQPTEQESVSLWCTADRSTFENLTWYKLGPPQPLPIHVGEPTPVCKNLDLW
KLNATMFSNSTNDILIMELKNASLQDQGDYVCLAQDRKTKKRHCVRQLTVLE
RVAPTITGNLENQTTSIGESIEVSCTASGNPPPQIMWFKDNETLVEDSGIVLKD
GNRNLTIIRVRKEDEGLYTCQACSVLGC AKVEAFFIIEGAQEKTNLE

Research Area	Cancer
Source	E.coli
Target Names	KDR
Expression Region	20-764aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	110.3kDa
Protein Length	Extracellular Domain

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The DNA fragment encoding the 20-764aa of the human KDR protein was fused with N-terminal GST tag gene and then was inserted into the expression vector, which was subsequently transformed into the E.coli for expression. The resulting product was further purified to obtain the recombinant human KDR protein. The purity of this recombinant KDR protein is greater than 90% assessed by BandsScan software analysis combined with SDS-PAGE. This KDR protein showed a band on the gel with a molecular weight of approximately 105 kDa.

As a VEGF receptor, VEGFR-2 (also known as KDR, FLK1, CD309) is a type IV receptor tyrosine kinase. It plays major part in the regulation of VEGF-induced endothelial proliferation, survival, migration, tubular morphogenesis and sprouting. In addition, KDR has been found closely related with the SHC2, Annexin A5, SHC1. The signaling involved in the KDR include Rab GTPase, P2Y purine nucleotide receptor, integrin α V β 3, T-cell protein tyrosine phosphatase, etc. KDR exerts multiple biological effects through its interaction with other molecules. Of note, more researches suggested that KDR



participates in the tumor growth and metastasis.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.