

VEGFR-2 Protein, Human (HEK293, His)

Cat. No.:	HY-P70552
Synonyms:	Vascular endothelial growth factor receptor 2; KDR; VEGFR-2; Fetal liver kinase 1; FLK-1; Kinase insert domain receptor; Protein-tyrosine kinase receptor flk-1; VEGFR2; VEGF R2
Species:	Human
Source:	HEK293
Accession:	AAI31823.1 (A20-E764)
Gene ID:	3791
Molecular Weight:	84-140 kDa

PROPERTIES

AA Sequence

ASVGLPSVSL	DLPRLSIQKD	ILTIKANTTL	QITCRGQRDL
DWLWPNNQSG	SEQRVEVTEC	SDGLFCKTLT	IPKVI GNDTG
AYKCFYRETD	LASVIYVYVQ	DYRSPFIASV	SDQHGVVYIT
ENKNKTVVIP	CLGSISNLNV	SLCARYPEKR	FVPDGNRISW
DSKKGFTIPS	YMISYAGMVF	CEAKINDESY	QSIMYIVVVV
GYRIYDVVLS	PSHGIELSVG	EKLVLNCTAR	TELVGIDFN
WEYPPSSKHQH	KKLVNRDLKT	QSGSEMKKFL	STLTIDGITR
SDQGLYTCAA	SSGLMTKKNS	TFVRVHEKPF	VAFGSGMESL
VEATVGERVR	IPAKYLGYP	PEIKWYKNGI	PLESNHTIKA
GHVLTIMEVS	ERDTGNYTVI	LTNPISKEKQ	SHVVS LVVYV
PPQIGEKSLI	SPVDSYQYGT	TQTLTCTVYA	IPPPHHIHWY
WQLEEECANE	PSHAVSVTNP	YPC E E WRSVE	DFQGGNKIEV
NKNQFALIEG	KNKTVSTLVI	QAANVSALYK	CEAVNKVGRG
ERVISFHVTR	GPEITLQPDM	QPT EQESVSL	WCTADRSTFE
NLTWYKLG PQ	PLPIHVGELP	TPVCKNLDTL	WKLNATMFSN
STNDILIMEL	KNASLQDQGD	YVCLAQDRKT	KKRHC VVRQL
TVLERVAPTI	TGNLENQTTS	IGESIEVSCT	ASGNPPPQIM
WFKDNETLVE	DSGIVLKDGN	RNLTI RRVRK	EDEGLYTCQA
CSVLGCAKVE	AFFIEGAQE	KTNLE	

Biological Activity	Measured by its ability to inhibit the VEGF-dependent proliferation of HUVEC human umbilical vein endothelial cells. The ED ₅₀ for this effect is 9-160 ng/mL in the presence of 10 ng/mL recombinant human VEGF165.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4 or 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).

Storage & Stability

Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION**Background**

VEGF receptors (VEGFRs) are receptors for vascular endothelial growth factor (VEGF), and there are three main subtypes, VEGFR-1, VEGFR-2, and VEGFR-3. VEGFR-2 acts as a tyrosine-protein kinase of the cell surface receptor for VEGFA, VEGFC and VEGFD, and plays an important role in angiogenesis, vascular development, vascular permeability and embryonic hematopoiesis. It can promote the proliferation, survival, migration and differentiation of endothelial cells. Promote actin cytoskeleton recombination. VEGFR-2 regulates VEGFR-1 (FLT1) and VEGFR-3 (FLT40) signaling by forming heterodimers. VEGFR-2 mediates the activation of ,MAPK1/ERK2, MAPK3/ERK1 and MAP kinase signaling pathways, as well as the AKT1 signaling pathway. It mediates phosphorylation of the phosphatidylinositol 3-kinase regulatory subunit PIK3R1, recombination of actin cytoskeleton and activation of PTK2/FAK1. Vegfa-mediated induction of NOS2 and NOS3 is required, resulting in endothelial cell production of the signaling molecule nitric oxide (NO). Phosphorylated PLCG1. Promotes phosphorylation of FYN, NCK1, NOS3, PIK3R1, PTK2/FAK1, and SRC. Overexpression of VEGFR-2 is associated with tumorigenesis^{[1][2][3][4][5][6]}.

Caution: Product has not been fully validated for medical applications. For research use only.

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