

VEGFR-1 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P73553
Synonyms:	Vascular endothelial growth factor receptor 1; FLT; FLT1; FRT; VEGFR-1
Species:	Mouse
Source:	HEK293
Accession:	P35969/NP_034358.2 (Y23-E759)
Gene ID:	14254
Molecular Weight:	Approximately 130 kDa

PROPERTIES

AA Sequence

Y G S G S K L K V P	E L S L K G T Q H V	M Q A G Q T L F L K	C R G E A A H S W S
L P T T V S Q E D K	R L S I T P P S A C	G R D N R Q F C S T	L T L D T A Q A N H
T G L Y T C R Y L P	T S T S K K K K A E	S S I Y I F V S D A	G S P F I E M H T D
I P K L V H M T E G	R Q L I I P C R V T	S P N V T V T L K K	F P F D T L T P D G
Q R I T W D S R R G	F I I A N A T Y K E	I G L L N C E A T V	N G H L Y Q T N Y L
T H R Q T N T I L D	V Q I R P P S P V R	L L H G Q T L V L N	C T A T T E L N T R
V Q M S W N Y P G K	A T K R A S I R Q R	I D R S H S H N N V	F H S V L K I N N V
E S R D K G L Y T C	R V K S G S S F Q S	F N T S V H V Y E K	G F I S V K H R K Q
P V Q E T T A G R R	S Y R L S M K V K A	F P S P E I V W L K	D G S P A T L K S A
R Y L V H G Y S L I	I K D V T T E D A G	D Y T I L L G I K Q	S R L F K N L T A T
L I V N V K P Q I Y	E K S V S S L P S P	P L Y P L G S R Q V	L T C T V Y G I P R
P T I T W L W H P C	H H N H S K E R Y D	F C T E N E E S F I	L D P S S N L G N R
I E S I S Q R M T V	I E G T N K T V S T	L V V A D S Q T P G	I Y S C R A F N K I
G T V E R N I K F Y	V T D V P N G F H V	S L E K M P A E G E	D L K L S C V V N K
F L Y R D I T W I L	L R T V N N R T M H	H S I S K Q K M A T	T Q D Y S I T L N L
V I K N V S L E D S	G T Y A C R A R N I	Y T G E D I L R K T	E V L V R D S E A P
H L L Q N L S D Y E	V S I S G S T T L D	C Q A R G V P A P Q	I T W F K N N H K I
Q Q E P G I I L G P	G N S T L F I E R V	T E E D E G V Y R C	R A T N Q K G A V E
S A A Y L T V Q G T	S D K S N L E		

Appearance Lyophilized powder

Formulation Lyophilized from a 0.2 µm filtered solution of PBS, 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 PBS, pH 7.4. 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**

VEGFR-1, a tyrosine-protein kinase, acts as a pivotal cell-surface receptor for VEGFA, VEGFB, and PGF, playing indispensable roles in embryonic vasculature development, angiogenesis regulation, cell survival, migration, macrophage function, chemotaxis, and cancer cell invasion. It functions as a positive regulator in the regression of postnatal retinal hyaloid vessels. While potentially acting as a negative regulator of embryonic angiogenesis by curbing excessive endothelial cell proliferation, VEGFR-1 also exhibits cell-type-specific promotion of proliferation, survival, and angiogenesis in adulthood, especially in response to PGF. With a high affinity for VEGFA, it modulates KDR signaling through heterodimer formation. Acting as a potential negative regulator of VEGFA signaling, it limits free VEGFA, hindering its binding to KDR. Ligand binding triggers various signaling cascades, including PLCG activation, leading to diacylglycerol and inositol 1,4,5-trisphosphate production, as well as protein kinase C activation. Additionally, VEGFR-1 mediates the phosphorylation of PIK3R1, initiating the phosphatidylinositol 3-kinase pathway, and activates MAPK1/ERK2, MAPK3/ERK1, and AKT1 signaling pathways. It also phosphorylates SRC, YES1, PLCG, and potentially CBL, facilitating the phosphorylation of AKT1 and PTK2/FAK1.

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

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