

VEGFR-3/FLT4 Protein, Human (HEK293, His)

Cat. No.:	HY-P74468
Synonyms:	Vascular endothelial growth factor receptor 3; VEGFR-3; FLT-4
Species:	Human
Source:	HEK293
Accession:	P35916 (Y25-I776)
Gene ID:	2324
Molecular Weight:	Approximately 130 kDa

PROPERTIES

Biological Activity	1. Measured by its binding ability in a functional ELISA. 2. Immobilized human VEGF-C at 10 µg/mL (100 µl/wel) can bind human VEGFR3-his The EC ₅₀ of human VEGFR3-his is 0.011 µg/mL.
Appearance	Solution
Formulation	Supplied as sterile PBS. pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background

VEGFR-2 protein is a tyrosine-protein kinase receptor that plays a crucial role in regulating various processes including angiogenesis, vascular development, vascular permeability, and embryonic hematopoiesis. It acts as a cell-surface receptor for VEGFA, VEGFC, and VEGFD, promoting the proliferation, survival, migration, and differentiation of endothelial cells. Additionally, isoforms lacking a transmembrane domain, such as isoform 2, act as decoy receptors for VEGFA, VEGFC, and/or VEGFD, serving as negative regulators of lymphangiogenesis by inhibiting the binding of these growth factors to FLT4. VEGFR-2 also forms heterodimers with FLT1 and FLT4, modulating their signaling. Activation of isoform 1 by vascular growth factors triggers multiple signaling cascades, including the activation of PLCG1, resulting in the production of diacylglycerol and inositol 1,4,5-trisphosphate, as well as the activation of protein kinase C. It also activates MAPK1/ERK2, MAPK3/ERK1, and AKT1 signaling pathways, leading to various cellular responses. Moreover, VEGFR-2 phosphorylates PIK3R1, facilitating the activation of phosphatidylinositol 3-kinase, and promotes actin cytoskeleton reorganization and activation of PTK2/FAK1. Its role in NOS2 and NOS3 induction leads to the production of nitric oxide (NO) by endothelial cells. Additionally, VEGFR-2 phosphorylates PLCG1 and promotes phosphorylation of FYN, NCK1, NOS3, PIK3R1, PTK2/FAK1, and

SRC, further contributing to its diverse cellular functions.

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

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