Data Sheet (Cat.No.TMPY-00949)

TargetMol

VEGFR3/FLT4 Protein, Human, Recombinant (His)

General Information

Synonyms:	VEGFR-3;PCL;FLT41;VEGF Receptor 3;VEGFR3;FLT-4;fms related tyrosine kinase 4;LMPH1A; FLT-41
Protein Construction:	A DNA sequence encoding the extracellular domain (Met 1-Ile 776) of human VEGFR3 (NP_002011.2) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Tyr 25 & Ser 473
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P35916-1
Molecular Weight:	86 kDa (predicted); 130 kDa (non-reduced condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. 2. Immobilized human VEGF-C at 10 μg/mL (100 μl/well) can bind human VEGFR3-his. The EC50 of human VEGFR3-his is 0.011 μg/mL.
Purity:	> 97 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Vascular endothelial growth factor receptor 3 (VEGFR3), also known as FLT-4, together with the other two members VEGFR1 (FLT-1) and VEGFR2 (KDR/Flk-1) are receptors for vascular endothelial growth factors (VEGF) and

belong to the class III subfamily of receptor tyrosine kinases (RTKs). The VEGFR3 protein is expressed mainly on lymphatic vessels but it is also up-regulated in tumor angiogenesis. Mutations in VEGFR3 have been identified in patients with primary lymphoedema. The VEGF-C/VEGF-D/VEGFR3 signaling pathway may provide a target for antilymphangiogenic therapy in prostate cancer, breast cancer, gastric cancer, lung cancer, non-small cell lung cancer (NSCLC), and so on.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Shushanov S,et al.(2000)VEGFc and VEGFR3 expression in human thyroid pathologies. Int J Cancer.86(1): 47-52.
Iljin K,et al.(2001) VEGFR3 gene structure, regulatory region, and sequence polymorphisms. FASEB J. 15(6): 1028-36.
Liu XE,et al.(2004) Expression and significance of VEGF-C and FLT-4 in gastric cancer. World J Gastroenterol. 10(3): 352-5.
Stearns ME,et al.(2004) Expression of a flt-4 (VEGFR3) splicing variant in primary human prostate tumors. VEGF D and flt-4t(Delta773-1081) overexpression is diagnostic for sentinel lymph node metastasis. Lab Invest. 84(6): 785-95.