Data Sheet (Cat.No.TMPY-03156)

TargetMol

VEGFC Protein, Mouse/Rat, Recombinant (aa 108-223, His)

General Information

Synonyms:	vascular endothelial growth factor C
Protein Construction:	A DNA sequence encoding the mouse / rat VEGFC (NP_033532.1/O35757) (Ala108-Arg223) was expressed fused with a polyhistidine tag at the C-terminus. Mouse and Rat mature VEGFC sequences are identical. Predicted N terminal: Ala 108
Species:	Mouse,Rat
Expression Host:	HEK293 Cells
Accession:	P97953-1
Molecular Weight:	14.5 kDa (predicted)

QC Testing

Biological Activity:	1. Immobilized mouse/rat VEGFC-His at 10 μg/mL (100 μL/well) can bind mouse VEGFR3-Fc , The EC50 of mouse VEGFR3-Fc is 17.4-40.6 ng/mL. 2. Measured in a cell proliferation assay using human umbilical vein endothelial cells (HUVEC). The ED50 for this effect is typically 0.1-0.8 μg/mL.
Purity:	> 95 % as determined by SDS-PAGE
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 C (VEGF-C) is a member of the VEGF family. Upon biosynthesis, VEGF-C protein is secreted as a non-covalent momodimer in an anti-parellel fashion. VEGF-C protein is a dimeric glycoprotein, as

a ligand for two receptors, VEGFR-3 (Flt4), and VEGFR-2. VEGF-C may function in angiogenesis of the venous and lymphatic vascular systems during embryogenesis. VEGF-C protein is over-expressed in various human cancers including breast cancer and prostate cancer. VEGF-C/VEGFR-3 axis, through different signaling pathways, plays a critical role in cancer progression by regulating different cellular functions, such as invasion, proliferation, and resistance to chemotherapy. Thus, targeting the VEGF-C/VEGFR-3 axis may be therapeutically significant for certain types of tumors.

Reference

Joukov V, et al. (1997) Vascular endothelial growth factors VEGF-B and VEGF-C. J Cell Physiol. 173(2): 211-5.
Su JL, et al. (2007) The role of the VEGF-C/VEGFR-3 axis in cancer progression. Br J Cancer. 96(4): 541-5.
Anisimov A, et al. (2009) Activated forms of VEGF-C and VEGF-D provide improved vascular function in skeletal muscle. Circ Res. 104(11): 1302-12.