

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

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 the Fc region of human IgG1 at the N-terminus. Mouse and Rat mature VEGFC sequences are identical. Predicted N terminal: Glu
Species:	Mouse,Rat
Expression Host:	HEK293 Cells
Accession:	O35757
Molecular Weight:	41.5 kDa (predicted); 44 and 34 kDa (reducing conditions)

QC Testing

Biological Activity:	1. Immobilized mouse FLT4-His at 10 µg/mL (100 µL/well) can bind mouse/rat Fc-VEGFC, The EC50 of mouse/rat Fc-VEGFC is 0.41-0.95 µg/mL. 2. Measured in a cell proliferation assay using human umbilical vein endothelial cells (HUVEC). The ED50 for this effect is typically 70-300 ng/mL.
Purity:	> 90 % 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 homodimer in an anti-parallel 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.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481