

Recombinant Mouse VEGF-D/FIGF Protein

Catalog No.: RP01778 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Mouse	14205	P97946

Tags
C-6*His

Synonyms

Vegfd; Figf; Vascular endothelial growth factor D; VEGF-D; c-Fos-induced growth factor; FIGF

Product Information

Source	Purification
HEK293 cells	PBS

Endotoxin
<0.1EU/μg

Formulation

Lyophilized from 0.22 μm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

Vascular endothelia growth factor D (VEGF-D), also known as c-fos-induced growth factor (FIGF), is a secreted glycoprotein of the VEGF/PDGF family. VEGFs regulate angiogenesis and lymphangiogenesis during development and tumor growth, and are characterized by eight conserved cysteine residues that form a cysteine-knot structure. VEGF-C and VEGF-D, which share 23% amino acid (aa) sequence identity, are uniquely expressed as preproteins that contain long N- and C-terminal propeptide extensions around the VEGF homology domain (VHD). Proteolytic processing of either 358 aa or 326 aa splice forms of mouse VEGF-D preproprotein creates a secreted proprotein. Further processing by extracellular serine proteases, such as plasmin or furin-like proprotein convertases, forms mature VEGF-D consisting of non-covalently linked 42 kDa homodimers of the 117 aa VHD. Mature mouse VEGF-D shares 94%, 99%, 93%, 91% and 89% aa identity with the VHD of human, rat, equine, canine and bovine VEGF-D, respectively. It is expressed in adult lung, heart, muscle, and small intestine, and is most abundantly expressed in fetal lungs and skin. Mouse and human VEGF-D are ligands for VEGF receptor 3 (VEGF-R3, also called Flt-4) that are active across species and show enhanced affinity when processed. Unlike human VEGF-D, which is also a ligand for VEGF-R2 (also called Flk-1 or KDR), mouse VEGF-D does not bind to VEGF-R2. VEGF-R3 is strongly expressed in lymphatic endothelial cells and is essential for regulation of the growth and differentiation of lymphatic endothelium. While VEGF-C is the critical ligand for VEGF-R3 during embryonic lymphatic development, VEGF-D is most active in neonatal lymphatic maturation and bone growth. Both promote tumor lymphangiogenesis. Consonant with their activity on VEGF receptors, binding of VEGF-C and VEGF-D to neuropilins contributes to VEGF-R3 signaling in lymphangiogenesis, while binding to integrin alpha 9 beta 1 mediates endothelial cell adhesion and migration.

Basic Information

Description

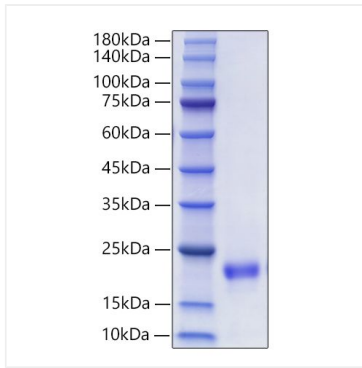
Recombinant Mouse VEGF-D/FIGF Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Phe98-Ser206) of Mouse VEGF-D/FIGF (Accession #NP_001295418.1) fused with a His tag at the C-terminus.

Bio-Activity

Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt. After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week. Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Mouse VEGF-D/FIGF Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 15-25kDa.