

Recombinant Mouse VEGF-D/FIGF Protein

Catalog No.: RP01778

Sequence Information

Species	Gene ID
Mouse	14205
Swiss Prot	Tags
P97946	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	≥ 90% as determined by SDS-PAGE.

Calculated MW	Observed MW
12.85 kDa	20-25 kDa

Endotoxin

< 0.1 EU/μg of the protein by LAL method.

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.

Background

Vascular endothelial 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.

Activity

Measured by its binding ability in a functional ELISA. Immobilized Mouse VEGFD (Catalog: RP01778) at 5 μg/mL (100 μL/well) can bind Human VEGFR-3/FLT-4 (Catalog: RP00123) with a linear range of 0.5-67.73 ng/mL.

Shipping

Lyophilized proteins are shipped at ambient temperature. Liquid proteins are shipped at frozen temperature with dry ice. Upon receipt, store it immediately at the temperature recommended below.

Storage

Store at -20°C

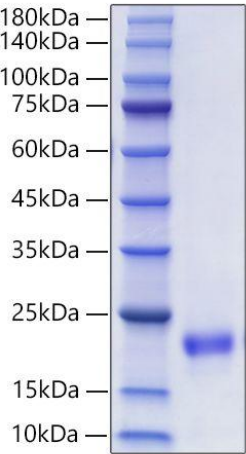
Operational Notes

Contact

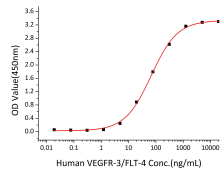
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For your safety and health, please wear a lab coat and disposable gloves for handling.

Validation Data



Recombinant Mouse VEGF-D/FIGF Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



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