

Recombinant Human VEGF-A/VEGF121 Protein

Catalog No.: RP01162 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Human	7422	P15692-9

Tags

N-His

Synonyms

VEGFA; MVCD1; VEGF; VPF; vascular endothelial growth factor A; MVCD1; VEGF; VPF; L VEGFA; VEGF A

Product Information

Source	Purification
HEK293 cells	> 95% by SDS-PAGE.

Calculated MW	Observed MW
14.91 kDa	17-22 kDa

Endotoxin

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

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Contact us for customized product form or formulation.

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.

Contact

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Background

This protein is a member of the PDGF/VEGF growth factor family. It encodes a heparin-binding protein, which exists as a disulfide-linked homodimer. This growth factor induces proliferation and migration of vascular endothelial cells, and is essential for both physiological and pathological angiogenesis. Disruption of this gene in mice resulted in abnormal embryonic blood vessel formation. This protein is upregulated in many known tumors and its expression is correlated with tumor stage and progression. Elevated levels of this protein are found in patients with POEMS syndrome, also known as Crow-Fukase syndrome.

Basic Information

Description

Recombinant Human VEGF-A/VEGF121 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala27-Arg147) of human VEGF121 (Accession #NP_001165099.1) fused with a 6×His tag at the N-terminus.

Bio-Activity

1. Measured by its binding ability in a functional ELISA. Immobilized Recombinant Human VEGF121 at 1 μg/mL (100 μL/well) can bind Recombinant Human VEGFR2 with a linear range of 4-10 ng/mL. 2. Measured in a cell proliferation assay using HUVEC human umbilical vein endothelial cells. The ED₅₀ for this effect is 0.09-0.36 ng/mL. 3. Recombinant Human VEGFA (40 ng/mL) and bFGF (50 ng/mL, Cat. RP01162) induce mesoderm cells to differentiate into hematopoietic stem and progenitor cells. After 4 days induction, pebbly-like CD43+ hematopoietic stem and progenitor cells appeared in the hematogenic endothelium.

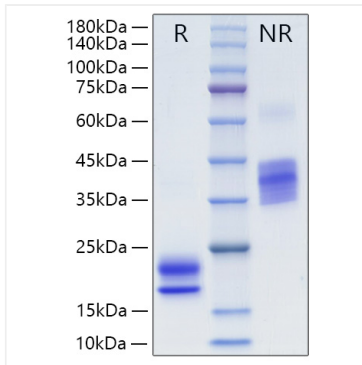
Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

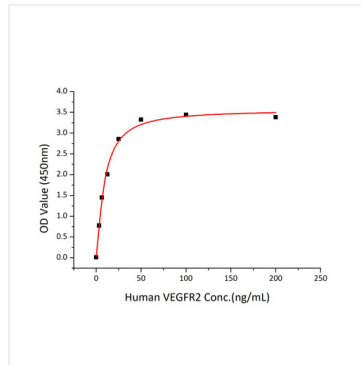
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

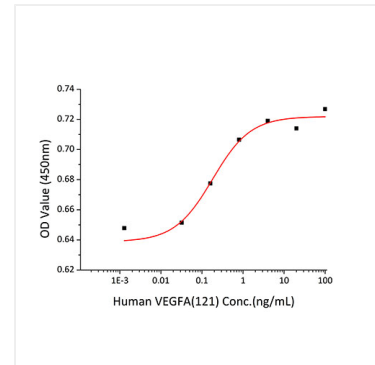
Validation Data



Recombinant Human VEGF-A/VEGF121 Protein was resolved with SDS PAGE under reducing (R) and non-reducing (NR) conditions, showing single bands at 17-22 kDa and 35-45 kDa, respectively.



Immobilized Recombinant Human VEGF121 at 1 μ g/mL (100 μ L/well) can bind Recombinant Human VEGFR2 with a linear range of 4-10 ng/mL.



Recombinant Human VEGF-A promotes the proliferation of HUVEC human umbilical vein endothelial cells. The ED₅₀ for this effect is 0.09-0.36 ng/mL.