PRODUCT INFORMATION

VEGF-D (human, recombinant)

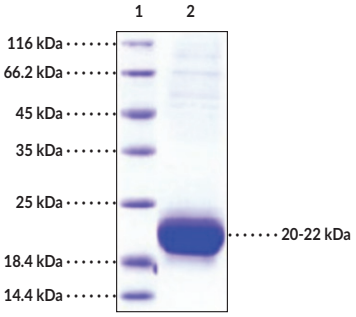
Item No. 32055

Overview and Properties

Synonyms:	c-Fos-induced Growth Factor, FIGF, Vascular Endothelial Growth Factor D
Source:	Active recombinant human C-terminal His-tagged VEGF-D expressed in HEK293 cells
Amino Acids:	93-201
Uniprot No.:	O43915
Molecular Weight:	13.6 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4, 5% trehalose, 5% mannitol, and 0.01% Tween-80. It is recommended to reconstitute with sterile deionized water to 0.25 mg/ml and avoid freeze/thaw cycles by aliquoting protein.
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Bioactivity:	See figures for details

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: VEGF-D

SDS-PAGE Analysis of VEGF-D. This protein has a calculated molecular weight of 13.6 kDa. It has an apparent molecular weight of approximately 20-22 kDa by SDS-PAGE under reducing conditions due to glycosylation.

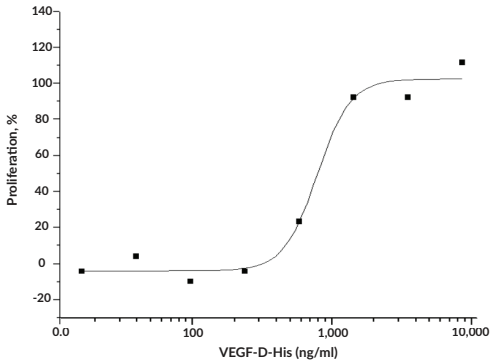


Figure 2. Cell proliferation assay using human umbilical vein endothelial cells (HUVECs). The EC_{50} for this effect is 0.3-1.6 µg/ml.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

VEGF-D is a member of the PDGF/VEGF family of growth factors that promotes angiogenesis and lymphangiogenesis.[1] VEGF-D exists as a secreted homodimer composed of a central VEGF homology domain containing the receptor binding region that is flanked by N- and C-terminal propeptides, which are proteolytically cleaved by furin and ADAMTS3 or plasmin to generate the mature, active protein.[2,3] VEGF-D is produced by macrophages, fibroblasts, smooth muscle cells, and tumor cells and *VEGFD* expression is dependent on *FOS* expression and decreased by stimulation with IL-1β.[4-6] Binding of VEGF-D to its receptors, VEGFR2 and VEGFR3, which are expressed by endothelial cells, stimulates the survival, migration, and proliferation of endothelial cells and promotes lymphatic and vascular vessel growth and remodeling.[1] VEGF-D induces proliferation and chemotaxis in KS-IMM cancer cells and stimulates growth and capillary-like structure formation in human umbilical vein endothelial cells (HUVECs).[5] *Vegfd*$^{-/-}$ mice, unlike *Vegfc*$^{-/-}$ mice, are viable and have a functional lymphatic system, indicating that VEGF-D is dispensable for its development.[7] Tumor VEGF-D levels are increased in patients with epithelial ovarian carcinoma and positively correlated with lymph node metastasis, poor prognosis, and decreased 10-year survival.[8] Cayman's VEGF-D (human, recombinant) protein can be used for cell-based assays applications. This protein consists of 120 amino acids and has a calculated molecular weight of 13.6 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 20 to 22 kDa due to glycosylation.

References

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