Cytokines

Human Recombinant VEGF-D

Vascular endothelial growth factor D

Catalog #	78203	10 µg
	78203.1	50 µg

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Product Description

Vascular endothelial growth factor D (VEGF-D) is a member of the VEGF/platelet-derived growth factor (PDGF) family of proteins. VEGF-D is a potent angiogenic factor and promotes lymphangiogenesis, endothelial cell growth and survival, and can affect blood vessel permeability. VEGF-D is expressed in the lung, heart, small intestine, fetal lung, and at lower levels in the pancreas, colon, and skeletal muscle (Otrock et al.; Roy et al.; Stacker et al.; Yamada et al.). VEGF-D is a ligand for VEGF receptors 2 (VEGFR-2 [Flk1]) and 3 (VEGFR-3 [Flt4]) (Baldwin et al.). VEFGR-3 is highly expressed in lymphatic endothelial cells and is essential for their growth and differentiation (Otrock et al.; Roy et al.). Binding of VEGF-D to neuropilins contributes to VEGFR-3 signaling during lymphangiogenesis, whereas binding to integrin α9β1 promotes endothelial cell adhesion and migration (Roy et al.; Otrock et al.). During embryogenesis, VEGF-D also plays a role in the formation of the venous and lymphatic systems.

Product Information

Alternative Names:	c-Fos induced growth factor, FIGF, Vascular endothelial growth factor D
Accession Number:	O43915
Amino Acid Sequence:	FAATFYDIET LKVIDEEWQR TQCSPRETCV EVASELGKST NTFFKPPCVN VFRCGGCCNE ESLICMNTST SYISKQLFEI SVPLTSVPEL VPVKVANHTG CKCLPTAPRH PYSIIRR
Predicted Molecular Mass:	13.1 kDa
Species:	Human
Cross Reactivity:	Reported to be species-specific
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	CHO

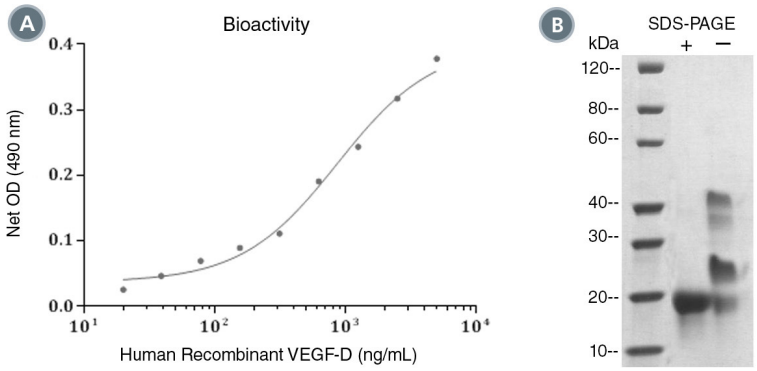
Specifications

Activity:	The specific activity is ≥ 1.0 x 10^3 units/mg (EC50 ≤ 1000 ng/mL) as determined by a cell proliferation assay using human umbilical vein endothelial cells (HUVECs).
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C for more than 2 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant VEGF-D was tested by its ability to promote the proliferation of HUVECs. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the example above is less than 1000 ng/mL.
(B) 2 µg of Human Recombinant VEGF-D was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant VEGF-D has a predicted molecular mass of 13.1 kDa.

Related Products

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References

Baldwin ME et al. (2001) The specificity of receptor binding by vascular endothelial growth factor-d is different in mouse and man. J Biol Chem 276(22): 19166–71.
Otrock ZK et al. (2007) Vascular endothelial growth factor family of ligands and receptors: review. Blood Cells Mol Dis 38(3): 258–68.
Roy H et al. (2006) Biology of vascular endothelial growth factors. FEBS Lett 580(12): 2879–87.
Stacker SA et al. (1999) Biosynthesis of vascular endothelial growth factor-D involves proteolytic processing which generates non-covalent homodimers. J Biol Chem 274(45): 32127–36.
Yamada Y et al. (1997) Molecular cloning of a novel vascular endothelial growth factor, VEGF-D. Genomics 42(3): 483–8.