

Human VEGF-D Antibody

Monoclonal Mouse IgG₁ Clone # 78923 Catalog Number: MAB286

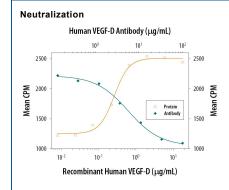
DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human VEGF-D in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant mouse (rm) VEGF-D, rmVEGF-B, recombinant human (rh) VEGF-B and rhVEGF is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 78923
Purification	Protein A or G purified from ascites
Immunogen	Mouse myeloma cell line NS0-derived recombinant human VEGF-D Phe93-Ser201 Accession # 043915
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample	
Immunohistochemistry	1-15 μg/mL	See Below	
Neutralization	Measured by its ability to neutralize VEGF-D-induced proliferation in HMVEC human microvascular endothelial cells. Achen, M. <i>et al.</i> (1998) Proc. Natl. Acad. Sci. USA 95 :548. The Neutralization Dose (ND ₅₀) is typically 3-8 μg/mL in the presence of 1 μg/mL Recombinant Human VEGF-D.		

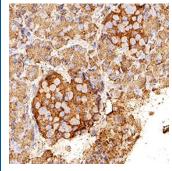
DATA



Cell Proliferation Induced by VEGF-D and Neutralization by Human VEGF-D Antibody.

Recombinant Human VEGF-D (Catalog # 622-VD) stimulates proliferation in HMVEC human microvascular endothelial cells in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human VEGF-D (1 µg/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human VEGF-D Monoclonal Antibody (Catalog # MAB286). The ND₅₀ is typically 3-8 µg/mL.

Immunohistochemistry



Detection of VEGF-D in Human Pancreas, VEGF-D was detected in immersion fixed paraffin-embedded sections of Human Pancreas using Mouse Anti-Human VEGF-D Monoclonal Antibody (Catalog # MAB286) at 1 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to pancreatic islets. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
	*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	lies a manual defreet freezer and avoid repeated freeze, thaw cycles

Use a manual defrost freezer and avoid repeated freeze-thaw cy

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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 cystine knot structure (1-3). VEGF-C and VEGF-D, which share 23% amino acid (aa) sequence identity, are uniquely expressed as preproproteins that contain long N- and C-terminal propeptide extensions around the VEGF homology domain (VHD) (1, 2). Proteolytic processing of the 354 aa 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 (4-6). Mature human VEGF-D shares 94%, 95%, 99%, 97%, and 93% aa identity with mouse, rat, equine, canine, and bovine VEGF-D, respectively (4, 5). It is expressed in adult lung, heart, muscle, and small intestine, and is most abundantly expressed in fetal lungs and skin (1-4). Mouse and human VEGF-D are ligands for VEGF Receptor 3 (VEGF R3, also called FIt-4) that are active across species and show enhanced affinity when processed (7). Processed human VEGF-D is also a ligand for VEGF R2, also called FIk-1 or KDR (7). VEGF R3 is strongly expressed in lymphatic endothelial cells and is essential for regulation of the growth and differentiation of lymphatic endothelium (1, 2). 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 (8-10). Both promote tumor lymphangiogenesis (11). 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 α9β1 mediates endothelial cell adhesion and migration (12, 13).

References:

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