Human VEGF-D Antibody

Monoclonal Mouse IgG_{2A} Clone # 78939

Catalog Number: MAB622

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human VEGF-D in direct ELISAs and Western blots. Shows less than 5% cross-reactivity with recombinant mouse (rm) VEGF-D and no cross-reactivity with recombinant human (rh) VEGF, recombinant rat VEGF, rhVEGF-B, rmVEGF-B, and rhVEGF-C.
Source	Monoclonal Mouse IgG_{2A} Clone # 78939
Purification	Protein A or G purified from ascites
Immunogen	Mouse myeloma cell line NS0-derived recombinant human VEGF-D Phe93-Ser201 Accession # O43915
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

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
Western Blot	1 µg/mL	Recombinant Human VEGF-D (Catalog # 622-VD)

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	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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.

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 Flt-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 Flk-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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