

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse VEGF-D in direct ELISAs and Western blots. In direct ELISAs, less than 40% cross-reactivity with recombinant human (rh) VEGF-D is observed, and less than 1% cross-reactivity with recombinant mouse (rm) VEGF ₁₁₅ , rmVEGF ₁₂₀ , rhVEGF, rhVEGF-B, and rmVEGF ₁₆₅ is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse VEGF-D Phe98-Ser206 Accession # P97946
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

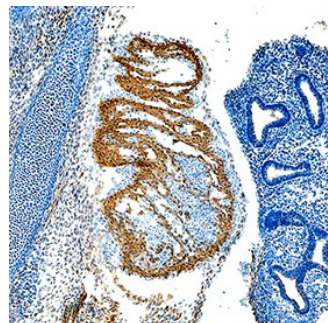
APPLICATIONS

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	0.1 µg/mL	Recombinant Mouse VEGF-D (Catalog # 469-VD)
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



VEGF-D in Mouse Lung Tissue. VEGF-D was detected in immersion fixed paraffin-embedded sections of mouse lung tissue using Goat Anti-Mouse VEGF-D Antigen Affinity-purified Polyclonal Antibody (Catalog # AF469) at 15 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in pneumocytes in lung. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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. <ul style="list-style-type: none"> 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 endothelia 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 cysteine-knot structure (1-3). VEGF-C and VEGF-D, which share 23% amino acid (aa) sequence identity, are uniquely expressed as preproteins that contain long N- and C-terminal propeptide extensions around the VEGF homology domain (VHD) (1, 2). Proteolytic processing of either 358 aa or 326 aa splice forms of mouse 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 (4-7). Mature mouse VEGF-D shares 94%, 99%, 93%, 91% and 89% aa identity with the VHD of human, rat, equine, canine and bovine VEGF-D, respectively. 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 (8). Unlike human VEGF-D, which is also a ligand for VEGF-R2 (also called Flk-1 or KDR), mouse VEGF-D does not bind to VEGF-R2 (8). 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 (9-11). Both promote tumor lymphangiogenesis (12). 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 $\alpha 9 \beta 1$ mediates endothelial cell adhesion and migration (13, 14).

References:

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