

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse VEGF-D in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant mouse (rm) VEGF ₁₆₅ , rmVEGF-B ₁₈₆ , recombinant human (rh) VEGF-C, or rhVEGF-D is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 90409
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant mouse VEGF-D Phe98-Ser206 Accession # P97946
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 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 α9β1 mediates endothelial cell adhesion and migration (13, 14).

PRODUCT SPECIFIC NOTICES

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