

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human VEGF-B ₁₈₆ in direct ELISAs and Western blots. In these formats, this antibody shows 30% cross-reactivity with rmVEGF-B ₁₈₆ and less than 1% cross-reactivity with rhVEGF-B ₁₆₇ , rhVEGF-D, and rmVEGF-D.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human VEGF-B ₁₈₆ Accession # P49765
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.

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 B (VEGF-B), also known as vascular endothelial growth factor-related factor (VRF), is a member of the VEGF family of growth factors that share structural and functional similarity (1, 2). Five mammalian members, including VEGF-A, -B, -C, -D and PlGF, have been identified. VEGF family members are disulfide-linked dimeric proteins that are important regulators of physiological and pathological vasculogenesis, angiogenesis and lymphangiogenesis. VEGF-B is expressed in most tissues, especially in heart, skeletal muscle and pancreas. In many tissues, VEGF-B is co-expressed and can heterodimerize with VEGF (3). By alternative splicing, two isoforms of mature VEGF-B containing 167 or 186 amino acid (aa) residues exist (3, 4). The two VEGF-B isoforms have identical amino-terminal cysteine-knot VEGF homology domains but the carboxyl end of VEGF-B₁₆₇ differs from that of VEGF-B₁₈₆ by the presence of a highly basic cysteine-rich heparin binding domain. Whereas VEGF-B₁₈₆ is a secreted diffusible protein, VEGF-B₁₆₇ is sequestered into the cell matrix after secretion. Both VEGF-B isoforms bind VEGF receptor 1 (VEGF R1), but not VEGF R2 or VEGF R3 (5). On endothelial cells, ligation of VEGF R1 by VEGF-B has been shown to regulate the expression and activity of urokinase type plasminogen activator and plasminogen activator inhibitor 1. VEGF-B₁₆₇ and a proteolytically processed form of VEGF-B₁₈₆ (VEGF-B₁₂₇) also bind neuropilin-1 (NP-1), a type I transmembrane receptor for semaphorins/collapsins, ligands involved in neuron guidance (6). Besides VEGF-B, NP-1 has been shown to bind PLGF-2, VEGF₁₆₅ and VEGF R1 (6, 7). The many interactions of NP-1 with VEGF ligands and receptor suggests that NP-1 may function as a regulator of angiogenesis (7).

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