

DESCRIPTION

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| Species Reactivity | Canine |
| Specificity | Detects canine VEGF in ELISAs and Western blots. In sandwich immunoassays, 100% cross-reactivity with recombinant human (rh) VEGF ₁₂₁ and rhVEGF ₁₆₅ , less than 25% cross-reactivity with recombinant rat VEGF ₁₆₄ , and no cross-reactivity with rhVEGF-B ₁₈₆ , rhVEGF-C, rhVEGF-D, recombinant mouse (rm) VEGF ₁₁₅ , rmVEGF ₁₂₀ , rmVEGF ₁₆₅ , or recombinant zebrafish VEGF ₁₆₅ is observed. |
| Source | Monoclonal Mouse IgG ₁ Clone # 247109 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | <i>E. coli</i> -derived recombinant canine VEGF ₁₆₄ Pro28-Arg190 Accession # NP_001103972 |
| 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. |

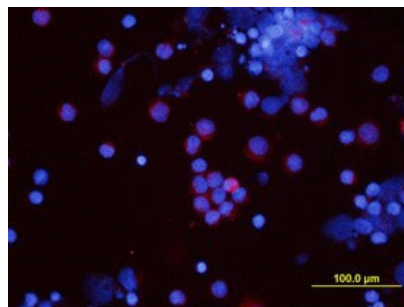
APPLICATIONS

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 Canine VEGF (Catalog # 1603-CV) |
| Immunocytochemistry | 8-25 µg/mL | See Below |
| Canine VEGF Sandwich Immunoassay | | Reagent |
| ELISA Capture | 2-8 µg/mL | Canine VEGF Antibody (Catalog # MAB1603) |
| ELISA Detection | 0.1-0.4 µg/mL | Canine VEGF ₁₆₄ Biotinylated Antibody (Catalog # BAF1603) |
| Standard | | Recombinant Canine VEGF (Catalog # 1603-CV) |

DATA

Immunocytochemistry



VEGF in Canine PBMCs.
VEGF was detected in immersion fixed canine peripheral blood mononuclear cells (PBMCs) using Mouse Anti-Canine VEGF Monoclonal Antibody (Catalog # MAB1603) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the Northern Lights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

PREPARATION AND STORAGE

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| 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. <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 endothelial growth factor (VEGF or VEGF-A), also known as vascular permeability factor (VPF), is a potent mediator of both angiogenesis and vasculogenesis in the fetus and adult. It is a member of the PDGF family that is characterized by the presence of eight conserved cysteine residues. In human, at least eight alternately spliced isoforms of VEGF ranging from 206 amino acids (aa) to 121 aa in length are known. Three isoforms, VEGF₁₈₈, VEGF₁₈₂, and VEGF₁₆₄, have been identified in canine. Canine VEGF₁₆₄ shares 91%, 90%, and 98% aa sequence identity with the rat, mouse, and feline homologs, respectively. Two type I transmembrane receptor tyrosine kinases, VEGF R1 and VEGF R2, that bind VEGF with high affinity, have been identified. Neuropilin-1, a receptor for semaphorin, also binds VEGF and acts as a co-receptor to enhance the affinity between VEGF and VEGF R2. Neuropilin-1 alone can also mediate VEGF-induced endothelial cell migration. VEGF regulates cell proliferation, migration, and survival of endothelial cells. These functions are partially mediated through the induction of nitric oxide, prostacyclin, and metalloproteinases. Together with angiopoietins or other vascular-specific growth factors, VEGF plays a separate but complementary role in angiogenesis and vasculogenesis (1-7).

References:

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2. Scheidegger, P. *et al.* (1999) *Biol. Chem.* **380**:1449.
3. Thurston, G. (2002) *J. Anat.* **200**:575.
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6. Robinson, C.J. and S.E. Stringer (2001) *J. Cell. Sci.* **114**:853.
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