Canine VEGF Antibody

Monoclonal Mouse IgG_1 Clone # 247109

Catalog Number: MAB1603

DESCRIPTION

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 $rhVEGF\text{-}B_{186}$, 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	*E. coli*-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.

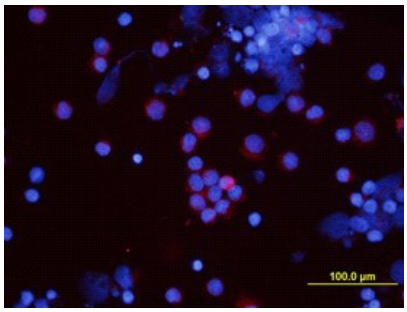
APPLICATIONS

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 NorthernLights™ 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

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.

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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, $VEGF_{188}$, $VEGF_{182}$, and $VEGF_{164}$, have been identified in canine. Canine $VEGF_{164}$ 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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