Rat VEGF Alexa Fluor® 647-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 123704

Catalog Number: FAB564R

100 µg

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat $VEGF_{164}$ in direct ELISAs and Western blots. Shows 50 - 100% cross-reactivity with recombinant mouse (rm) $VEGF_{120}$, $rmVEGF_{164}$, recombinant human (rh) $VEGF_{121}$, $rhVEGF_{165}$, and $rhVEGF_{189}$
Source	Monoclonal Mouse IgG_{2B} Clone # 123704
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat $VEGF_{164}$ Ala27-Arg190 Accession # AAA41211.1
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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 (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 and a cystine knot structure. VEGF164 appears to be the most abundant and potent isoform, followed by VEGF120 and VEGF188. Rat VEGF164 is an approximately 50 kDa molecular weight homodimer sharing 97% aa sequence identity with corresponding regions of mouse, 88% with human and bovine, 90% with feline and equine, and 89% with canine and porcine VEGF, respectively. VEGF binds the type I transmembrane receptor tyrosine kinases VEGF R1 (also called Flt-1) and VEGF R2 (Flk-1/KDR) on endothelial cells. Although VEGF affinity is highest for binding to VEGF R1, VEGF R2 appears to be the primary mediator of VEGF angiogenic activity. Human VEGF165 binds the Semaphorin receptor, Neuropilin-1 and promotes complex formation with VEGF R2. VEGF is required during embryogenesis and functions to regulate the proliferation, migration, and survival of endothelial cells. In adults, VEGF functions mainly in wound healing and the female reproductive cycle. Pathologically, it is involved in tumor angiogenesis and vascular leakage. Circulating VEGF levels correlate with disease activity in autoimmune diseases such as rheumatoid arthritis, multiple sclerosis and systemic lupus erythematosus. VEGF is induced by hypoxia and cytokines such as IL-1, IL-6, IL-8, Oncostatin M (OSM) and TNF-alpha.

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