

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse VEGF R2 in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human VEGF R2 is observed and less than 2% cross-reactivity with recombinant mouse (rm) VEGF R1 and rmVEGF R3 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse VEGF R2 Ala20-Glu762 Accession # P35918
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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.

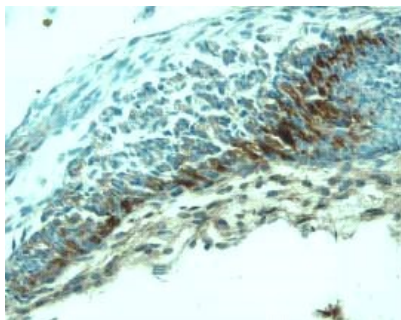
APPLICATIONS

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	0.1 µg/mL	Recombinant Mouse VEGF R2/KDR/FIk-1 Fc Chimera (Catalog # 443-KD)
Flow Cytometry	2.5 µg/10 ⁶ cells	bEnd.3 mouse endothelioma cell line
Immunohistochemistry	5-15 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Neutralization	Measured by its ability to neutralize VEGF R2/KDR/FIk-1-mediated inhibition of proliferation in HUVEC human umbilical vein endothelial cells. The Neutralization Dose (ND ₅₀) is typically 0.1-0.3 µg/mL in the presence of 50 ng/mL Recombinant Mouse VEGF R2/KDR/FIk-1 Fc Chimera and 5 ng/mL Recombinant Mouse VEGF ₁₆₄ .	

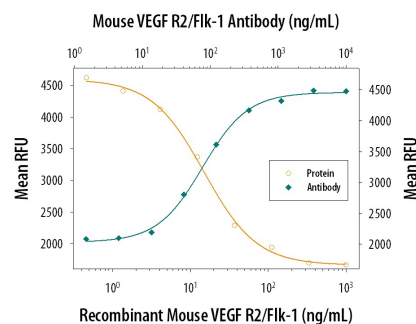
DATA

Immunohistochemistry



VEGF R2/KDR/FIk-1 in Mouse Embryo. VEGF R2/KDR/FIk-1 was detected in immersion fixed frozen sections of mouse embryo (14 d.p.c.) using 15 µg/mL Mouse VEGF R2/KDR/FIk-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF644) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to mesenchymal cells. View our protocol for [Chromogenic IHC Staining of Frozen Tissue Sections](#).

Neutralization



VEGF R2/KDR/FIk-1 Inhibition of VEGF-dependent Cell Proliferation and Neutralization by Mouse VEGF R2/KDR/FIk-1 Antibody. Recombinant Mouse VEGF R2/KDR/FIk-1 Fc Chimera (Catalog # 443-KD) inhibits Recombinant Mouse VEGF₁₆₄ (Catalog # 493-MV) induced proliferation in HUVEC human umbilical vein endothelial cells in a dose-dependent manner (orange line). Inhibition of Recombinant Mouse VEGF₁₆₄ (5 ng/mL) activity elicited by Recombinant Mouse VEGF R2/KDR/FIk-1 Fc Chimera (50 ng/mL) is neutralized (green line) by increasing concentrations of Mouse VEGF R2/KDR/FIk-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF644). The ND₅₀ is typically 0.1-0.3 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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

VEGF R2 (KDR/FIk-1), VEGF R1 (Flt-1), and VEGF R3 (Flt-4) belong to the class III subfamily of receptor tyrosine kinases (RTKs). All three receptors contain seven immunoglobulin-like repeats in their extracellular domains and kinase insert domains in their intracellular regions. The expression of VEGF R1, 2, and 3 is almost exclusively restricted to the endothelial cells. These receptors are likely to play essential roles in vasculogenesis and angiogenesis.

Mouse VEGF R2 cDNA encodes a 1367 amino acid (aa) residue precursor protein with a 19 aa residue signal peptide. Mature VEGF R2 is composed of a 743 aa residue extracellular domain, a 22 aa residue transmembrane domain and a 583 aa residue cytoplasmic domain. In contrast to VEGF R1 which binds both PIGF and VEGF with high affinity, VEGF R2 binds VEGF but not PIGF with high affinity. The recombinant soluble VEGF R2/Fc chimera binds VEGF with high affinity and is a potent VEGF antagonist.

References:

1. Ferra, N. and R. Davis-Smyth (1997) *Endocrine Reviews* **18**:4.
2. Achen, M.G. *et al.* (1998) *Proc. Natl. Acad. Sci. USA* **95**:548.