

DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human VEGF R2/KDR/Fik-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 40% cross-reactivity with recombinant mouse VEGF R2 is observed and less than 10% cross-reactivity with recombinant human (rh) VEGF R1 and rhVEGF R3 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human VEGF R2/KDR/Fik-1 Ala20-Glu764 Accession # AAC16450
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.

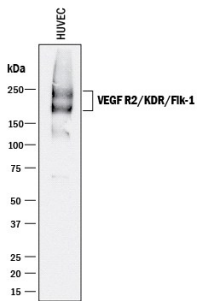
APPLICATIONS

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	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
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 0.05-0.25 µg/mL in the presence of 30 ng/mL Recombinant Human VEGF R2/KDR/Fik-1 Fc Chimera and 5 ng/mL Recombinant Human VEGF ₁₆₅ .	

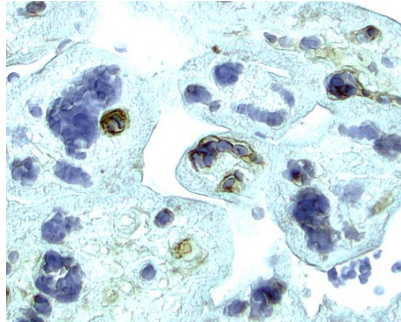
DATA

Western Blot



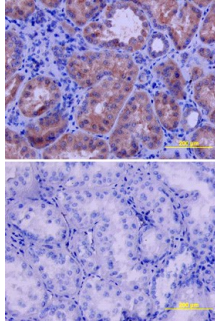
Detection of Human VEGF R2/KDR/Fik-1 by Western Blot. Western blot shows lysate of HUVEC human umbilical vein endothelial cells. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human VEGF R2/KDR/Fik-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF357) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). Specific bands were detected for VEGF R2/KDR/Fik-1 at approximately 200-250 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



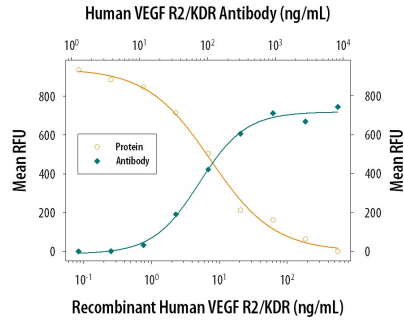
VEGF R2/KDR/Fik-1 in Human Placenta. VEGF R2/KDR/Fik-1 was detected in immersion fixed paraffin-embedded sections of human placenta using 15 µg/mL Goat Anti-Human VEGF R2/KDR/Fik-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF357) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-AEC Cell & Tissue Staining Kit (red; Catalog # CTS009) and counterstained with hematoxylin (blue). View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

Immunohistochemistry



VEGF R2/KDR/Fk-1 in Human Kidney.
VEGF R2/KDR/Fk-1 was detected in immersion fixed paraffin-embedded sections of human kidney using Goat Anti-Human VEGF R2/KDR/Fk-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF357) at 10 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

Neutralization



VEGF R2/KDR/Fk-1 Inhibition of VEGF-dependent Cell Proliferation and Neutralization by Human VEGF R2/KDR/Fk-1 Antibody. Recombinant Human VEGF R2/KDR/Fk-1 Fc Chimera (Catalog # 357-KD) induced proliferation in HUVEC human umbilical vein endothelial cells in a dose-dependent manner (orange line). Inhibition of Recombinant Human VEGF₁₆₅ (5 ng/mL) activity elicited by Recombinant Human VEGF R2/KDR/Fk-1 Fc Chimera (30 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human VEGF R2/KDR/Fk-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF357). The ND₅₀ is typically 0.05-0.25 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/Fk-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.

VEGF R2 cDNA encodes a 1356 amino acid (aa) residue precursor protein with a 19 aa residue signal peptide. Mature VEGF R2 is composed of a 745 aa residue extracellular domain, a 25 aa residue transmembrane domain and a 567 aa residue cytoplasmic domain. In contrast to VEGF R1 which binds both PlGF and VEGF with high affinity, VEGF R2 binds VEGF but not PlGF 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.