

Product Specification Sheet

FLK-1/KDR/VEGFR2 Antibodies

Cat. FLK11-A	Rabbit Anti-Mouse FLK-1 IgG (aff pure)	SIZE: 100 ug
Cat. FLK11-P	Mouse FLK-1 control/blocking peptide # 1	SIZE: 100 ug

Embryonic vascular system undergoes a series of complex, highly regulated series of events involving differentiation, migration and association of primitive endothelial cells. This process is termed vasculogenesis. A further remodeling of the primitive vascular system forms the mature cardiovascular system. This process is known as angiogenesis (sprouting of new capillary vessels from pre-existing vasculature). Study of tumor angiogenesis has led to the identification of several proteins including basic fibroblast growth factor (**bFGF**) and vascular endothelial growth factor (**VEGF**). VEGF acts by interacting with a family of largely endothelial-specific receptor tyrosine kinases that includes VEGFR-1 (**flt-1** or **fms-like tyrosine kinase 1**), VEGFR-2 (**flk-1** or fetal liver kinase-1/**KDR** or Kinase insert domain containing receptor), and VEGFR-3/Flt-4. Disruption of VEGFRs interferes with differentiation of endothelial cells and it is lethal for the embryo.

FLK-1 (**Fetal-Liver Kinase 1**; human homolog is KDR, Kinase insert domain containing receptor or VEGF-R2; mouse 1345 aa; rat 1343 aa, and human 1356), a putative receptor protein tyrosine kinase. FLK-1 belongs to the family of type-1 membrane protein. Human FLK-1 protein: 1-19 signal peptide, 20-1356 mature protein (20-764 extracellular domain, 765-789 TM, and 790-1356 cytoplasmic domain). FLK-1 Receptor for VEGF or VEGFC. Has a tyrosine-protein kinase activity. The VEGF-kinase ligand/receptor signaling system plays a key role in vascular development and regulation of vascular permeability. It is expressed in endothelial cells of developing embryo (1). It is also expressed at high levels in adult heart, lung, kidney, brain and skeletal muscle, but is also expressed at lower levels in most other adult tissues.

Source of Antigen and Antibodies

Antigen	20-aa peptide of Mouse FLK1/VEGF-R2 ; Designated (FLK11-P or control peptide /blocking peptide) conjugated to KLH; Epitope location ~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # FLK11-A) purified over antigen-agarose column
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -200C and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting (1:1200-1:500) for affinity pure using Chemiluminescence technique). FLK-1 is approx. ~195 and 235 kD in HeLa or CCRF-HSB-2 cells. (see refs 2).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: not tested. We recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue.

Specificity & Cross-reactivity

Anti-Mouse FLK11-A is crossreactive with rat and human. No significant sequence homology is seen with human FLT-1 or other related kinases. Antibody crossreactivity in various species is not established. The control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (A detailed protocol is available at our web-site).

General References: (1) Oelrichs R B et al (1993) Oncogene 8, 11-18; Millauer B et al (1993) Cell 72, 835-846; Wen Y et al (1997) Gene accession # U93306; Yin LY (1997) Gene Acc. # AF035121; Plouet J (1989) EMBO J 8, 3801; deVries C et al (1992) Science 255, 989

(2) Citations of ADI's Antibodies (see web site for updated list)

Hosford GE, 2003, Am J Physiol Lung Cell Mol Physiol 285: L161-L168, WB,
Kitajima, 2004, Fertility and Sterility, 81, 842-849, WB

**This product is for in vitro research use only.*

Related material available from ADI

Antibodies to Ang-1, Ang-2, Tie-1, Tie-2, Recombinant Mouse and Human VEGFs, Anti-(VEGFRs 1-3

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