Qty: 1 mL

Mouse anti-VEGF Receptor-2

Catalog No. 39-2400

Lot No.

Mouse anti-VEGF Receptor-2

FORM
This monoclonal antibody is supplied as a 1 mL aliquot of tissue culture supernatant containing 0.1% sodium azide.

CLONE: ZV001 **ISOTYPE:** Mouse IgG_1 -kappa

IMMUNOGEN
Recombinant protein derived from the C-terminal region of the human VEGF receptor-2 (VEGFR-2, Flk-1, KDR), which has 87% sequence homology with mouse and rat

SPECIFICITY
This antibody is specific for the VEGF receptor-2. On Western blots, it identifies the target band at ~230 kDa.

REACTIVITY
Reactivity has been confirmed with human HUVEC and mouse SVEC cell lysates. Based on amino acid sequence homology, reactivity with rat is expected.

Sample	ELISA	Western Blotting
Human	ND	+++
Mouse	ND	++
Rat	ND	ND
Immunogen	+++	N/A

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE
Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA: 1:100 - 1:1000
Western Blotting: 1:30 - 1:100

STORAGE
Store at 2-8°C for up to one month. Store at –20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

BACKGROUND

Vascular endothelial growth factor receptor 2 (VEGFR-2), also called fetal liver kinase 1 (Flk-1) in mouse and KDR in human, is a transmembrane tyrosine kinase that plays a pivotal role in the development of the vascular system and in the vascularization of a wide variety of tumors.[1-3] Like other VEGF receptors, VEGFR-2 is characterized by the presence of seven immunoglobulin-like domains in the extracellular region (EC), a single transmembrane region, and a tyrosine kinase domain.[4] Binding of VEGF to VEGFR-2 leads to tyrosine phosphorylation of the dimerized receptor and subsequent phosphorylation of SH_2-containing intracellular signaling proteins including phospholipase C, Src family tyrosine kinases and phosphatidylinositol 3-kinase (PI3K) adaptor molecules, SHC, NCK, and Ras GTPase-activating protein.[5]

VEGFR-2 transcripts were found abundant in proliferating endothelial cells of vascular sprouts and branching vessels of embryonic and early postnatal brain, but were greatly reduced once the proliferation has ceased.[6] VEGFR-2 was found expressed in cultured human umbilical vein endothelial cells (HUVEC),[7] bovine aortic endothelial (ABAE) cells, WM 35 and WM 9 melanoma cells,[8] NIH 3T3, HeLa and Balb/c 3T3 cells. VEGFR-2 expression has been described in a wide variety of cancers, including bladder tumors, breast cancer, intestinal cancer, and lung cancer.[10]

REFERENCES

1. Chiang MK, Flanagan JG. *Growth Factors* 12(1):1-10, 1995.
2. Botta R, et al. *Exp Hematol* 28(12):1501, 2000.
3. Heidenreich R, et al. *Cancer Res* 60(12):6142-6147, 2000.
4. Neufeld G, et al. *FASEB J* 13(1):9-22, 1999.
5. Dayanir V, et al. *J Biol Chem* 276(12):17686-17692, 2001.
6. Millauer B, et al. *Cell* 72(6):835-846, 1993.
7. Waltenberger J, et al. *J Biol Chem* 269(43):26988-26995, 1994.
8. Terman BI, et al. *Biochem Biophys Res Comm* 187(3):1579-1586, 1992.
9. Soker S, et al. *J Biol Chem* 271(10):5761-5767, 1996.
10. Tian X, et al. *Biochem Biophys Res Comm* 286(3):505-512, 2001.

RELATED PRODUCTS

Product	*Conjugate*	*Cat. No.*
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

Conjugate	ZyMAX™ Goat x Rabbit IgG (H+L)	ZyMAX™ Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

For Research Use Only