DATA SHEET

Anti-human VEGFR-2/KDR (#4 (20I6))

Catalogue number: CYT-28770 **Size:** 100 µg

Preparation: Monoclonal antibodies were produced with the help of BALB/c mice using recombinant human soluble extracellular KDR (D7) as the immunizing antigen.

Target Background

Synonyms: Vascular endothelial growth factor receptor 2

Disruption of the precise balance of positive and negative molecular regulators of blood and lymphatic vessel growth can lead to myriad diseases. Although dozens of natural inhibitors of hemangiogenesis have been identified, an endogenous selective inhibitor of lymphatic vessel growth has not to our knowledge been previously described. A splice variant of the gene encoding vascular endothelial growth factor receptor-2 (VEGFR-2) that encodes a secreted form of the protein, designated endogenous soluble VEGFR-2 (esVEGFR-2/KDR) has been described. The endogenous soluble esKDR inhibits developmental and reparative lymphangiogenesis by blocking VEGF-C function. Tissue-specific loss of esKDR in mice induced, at birth, spontaneous lymphatic invasion of the normally alymphatic cornea and hyperplasia of skin lymphatics without affecting blood vasculature. Administration of esKDR inhibited lymphangiogenesis but not hemangiogenesis induced by corneal suture injury or transplantation, enhanced corneal allograft survival and suppressed lymphangioma cellular proliferation. Naturally occurring esKDR thus acts as a molecular uncoupler of blood and lymphatic vessels; modulation of esKDR might have therapeutic effects in treating lymphatic vascular malformations, transplantation rejection and, potentially, tumor lymphangiogenesis and lymphedema.

Product Specifications

Species reactivity:	human
Clone/Ab feature:	IgG1; #4 (20I6)
Cross reactivity:	ND
Host:	mouse
Clonality:	monoclonal
Purification:	Protein G purified
Immunogen:	recombinant human soluble KDR (D7) (RT# S01-003)
Formulation:	lyophilized
Buffer:	PBS

Database References Antigen

Protein RefSeq: NP_002241.1
Uniprot ID: P22333
mRNA RefSeq: NM_002253.2

Stability: The lyophilized antibody is stable at room temperature for up to 1 month. The reconstituted antibody is stable for at least two weeks at 2-8°C. Frozen aliquots are stable for at least 6 months when stored at -20°C.

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Reconstitution: Centrifuge vial prior to opening. Reconstitute in sterile water to a concentration of 0.1-1.0 mg/ml.

AVOID REPEATED FREEZE AND THAW CYCLES!

Specificity
The antibody will detect native human VEGFR-2/KDR in ELISA and on the surface of different human cell types.

Applications

Western Blot:	Use at 2-5 µg/ml
FACS:	Use at 2-5 µg/ml
IF/IHC	Use at 6-30 µg/ml
ELISA:	Use at 1-10 µg/ml

NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!

Handling/Applications

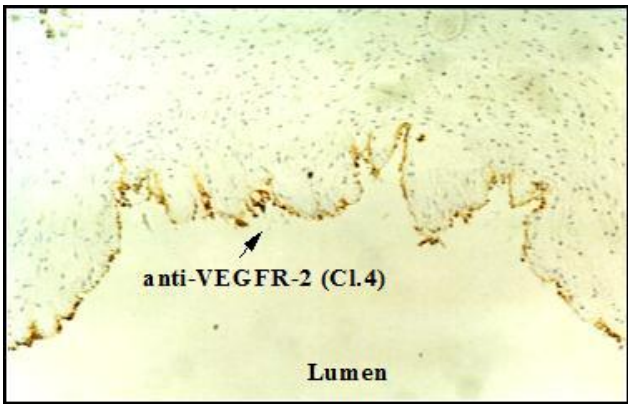

Figure 1: Up-regulation of VEGFR-2 in vein ECs of an intact human umbilical cord by bFGF. A fresh human umbilical cord was rinsed with PBS to remove residual blood cells, cut in small pieces (about 0.5 cm), incubated in EBM (1% FCS) and stimulated with or without 20 ng/ml bFGF for 24 h. Pieces were frozen in liquid nitrogen and used for immunohistochemistry using the mab anti-human VEGFR-2/Cl.4 **(#CYT-28770**) as detection antibody. (Bernhard Barleon et al., unpublished data!)
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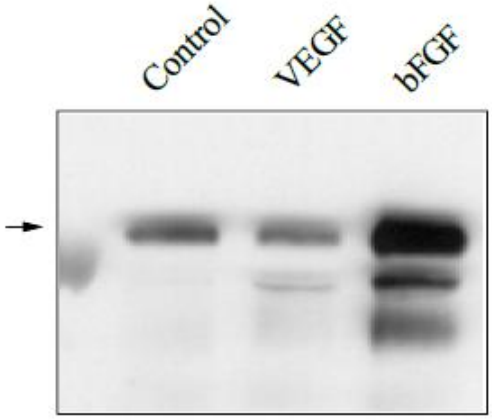

Figure 2: Up-regulation of VEGFR-2 in primary HUVECs by bFGF. Freshly isolated HUVECs (passage 1) were cultured in EBM. Subconfluent cultures were stimulated with VEGF (5 ng/ml) or bFGF (10 ng/ml) for 3 days. Total lysate was prepared and subjected to immunoprecipitation (anti-human VEGFR-2 (Cl.3) **[#CYT-28769**] followed by Western blotting (anti-human VEGFR-2 (Cl.4) **[#CYT-28770**]. (Bernhard Barleon et.al., unpublished data!)

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