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# DM3522P Monoclonal Antibody to CD309 / VEGFR-2 / Flk-1 - Purified

**Alternate names:** FLK1, KDR, Kinase NYK, Kinase insert domain receptor, Protein-tyrosine kinase receptor Flk-1, VEGF Receptor 2, VEGFR2, Vascular endothelial growth factor receptor 2

**Quantity:** 0.1 mg

**Background:** VEGF receptor 2 is a member of a receptor tyrosine kinase family whose activation plays an essential role in a large number of biological processes such as embryonic development, wound healing, cell proliferation, migration and differentiation. Like other growth factor receptors, upon ligand binding VEGF receptor 2 dimerises and is autophosphorylated on multiple tyrosine residues. These sites can be involved in the regulation of kinase activity or serve as binding sites for SH2 and phosphotyrosine binding containing signalling proteins. Phosphorylation of Tyrosines 1054 and 1059 in the activation loop is required for activation of VEGF receptor 2 and its intrinsic tyrosine kinase activity. In case of HIV-1 infection, the interaction with extracellular viral Tat protein seems to enhance angiogenesis in Kaposi's sarcoma lesions.

**Uniprot ID:** P35968

**NCBI:** NP_002244.1

**GeneID:** 3791

**Host / Isotype:** Mouse / IgG1

**Recommended Isotype Controls:** SM10P (for use in human samples), AM03095PU-N

**Clone:** 4H3

**Immunogen:** Recombinant Human soluble extracellular KDR (D7) (110 kDa) protein (*Cat.-No* AR26018PU-N)

**Format:**
**State:** Lyophilized purified IgG fraction
**Purification:** Protein G Chromatography
**Buffer System:** PBS pH 7.4 without preservatives
**Reconstitution:** Restore in sterile water to a concentration of 0.1-1.0 mg/ml.

**Applications:**
**ELISA:** 1-15 µg/ml.
**Western blot:** 2-5 µg/ml.
**Immunofluorescence/Immunohistochemistry:** 1-5 µg/ml.
**Flow Cytometry and Cell Sorting:** Use at 2-5 µg/ml together with the appropriate secondary reagents.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

**Specificity:** This antibody will detect native Human VEGFR-2/KDR in ELISA experiments and on the surface of different Human cell types.

**Species Reactivity:** **Tested:** Human.

**Storage:**

Store lyophilized at 2-8°C for 6 months or at -20°C long term.
After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

**General Readings:**

1. Shibata et al, BMC Medicine 8 (2010)
2. Albaquerque et al, Nature Med 2009
3. Ebos et al, Mol Cancer Res 2 (2004)
4. Ebos et al, Cancer res 68 (2008).
5. Benzinger et al., BBA 1466:71, 2000.

**Pictures:**

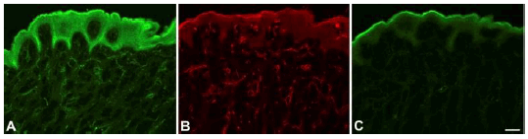


**Figure 5.** Consecutive sections of unfixed, human foreskin. A) Staining with anti-soluble VEGFR2/KDR antibodies (Cat.-No AP26034PU-L). Note signal in epidermis and vessels. B) Staining with anti-membrane-bound VEGFR-2/KDR (Cat.-No DM3522P). Note staining in vessels. C) Negative control. Note non-specific fluorescence in the hornified layer of the epithelium. Provided by Prof. J. Wilting, Göttingen, Germany.

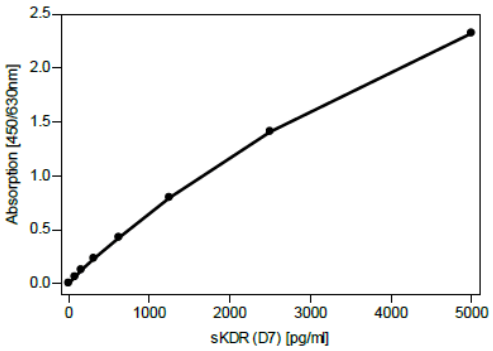


**Figure 3:** VEGFR-2/KDR Sandwich-ELISA using soluble KDR (D7) [Cat# S01-002] as standard. Mouse anti-human VEGFR-2 Cat.-No DM3522P was used as capture antibody, Biotinylated rabbit anti-human VEGFR-2 Cat.-No DP3509B was used for detection.

**Figure 2.** FACS analysis of VEGFR-2/KDR expression in HUVE cells (upper level) and EPCs derived from PBMcs (lower level ) [5µg/ml DM3522P; 5µg/ml PE goat anti-mouse IgG]. The experiment was performed by Trisha M. Westerhof, University of California, Irvine.

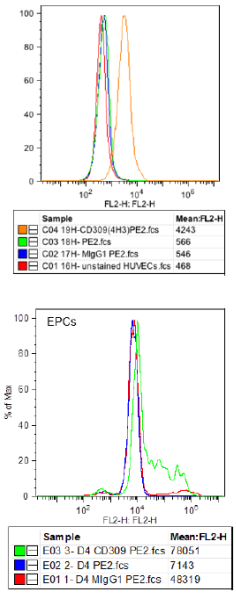


**Figure 4.** FACS analysis with primary HUVECs using anti-Human VEGFR-2 antibody Cat.-No DM3522P.

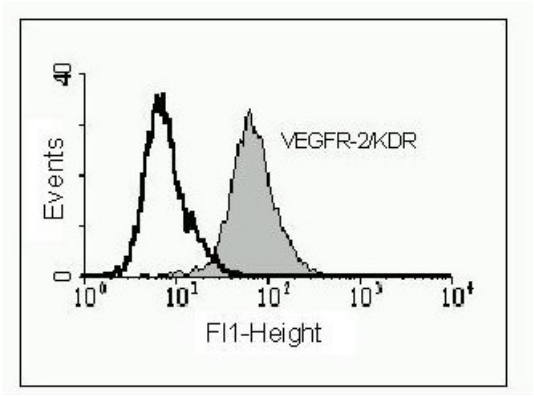


**Figure 1. Up-regulation of VEGFR-2 in primary HUVECs by bFGF:**
Freshly isolated HUVECs (passage 1) were cultured in EBM. Subconfluent cultures were stimulated with VEGF (5 ng/ml) or bFGF (10 ng/ml) for 3 days. Total lysate was prepared and subjected to immunoprecipitation (anti-Human VEGFR-2 Cat.-No DM3522P) followed by Western blotting (anti-Human VEGFR-2 antibody Cat.-No DM3523P). (*Bernhard Barleon et.al.*, unpublished data!)