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DM3523P 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: 4 (2016)

Immunogen: Recombinant Human soluble extracellular VEGFR-2 / KDR (D7) (110 kDa) protein (*Cat.-No* AR26018PU-N).

Format:
State: Lyophilized purified IgG fraction
Purification: Affinity Chromatography on Protein G
Buffer System: PBS, pH 7.4
Reconstitution: Restore in sterile water to a concentration of 0.1-1.0 mg/ml.

Applications:
ELISA: 1-10 µg/ml.
Western blot: 2-5 µg/ml.
Immunofluorescence/Immunohistochemistry on Frozen Sections: 6-30 µg/ml.
FACS analysis and cell sorting: 2-5 µg/ml.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This monoclonal antibody will detect native Human VEGFR-2 / KDR in ELISA experiments and on the surface of different Human cell types.
Species: Human.
Other species not tested.

Storage:

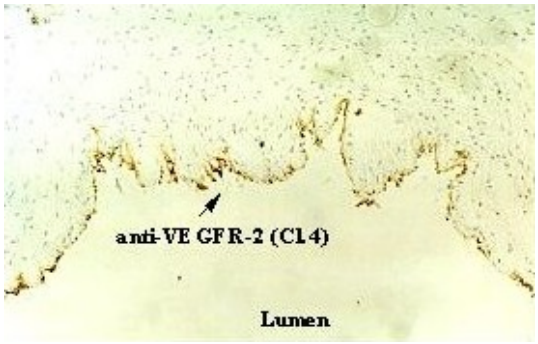
Store lyophilized at 2-8°C for 6 months or at -20°C long term.
After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

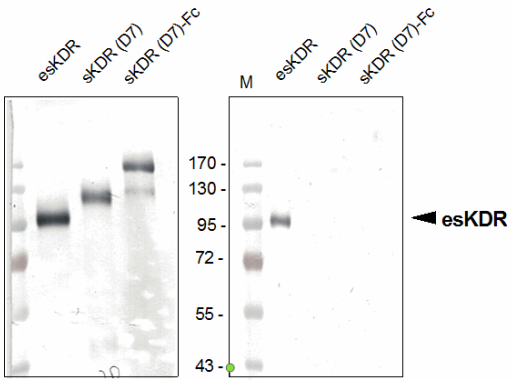
1. Shibata et al, BMC Medicine 8 (2010).
2. Albaquerque et al, Nature Med 2009).
3. Ebos et al, Mol Cancer Res 2 (2004).
4. Ebos et al, Cancer res 68 (2008).
5. Benzinger P, Martiny-Baron G, Reusch P, Siemeister G, Kley JT, Marmé D, et al. Targeting of endothelial KDR receptors with 3G2 immunoliposomes in vitro. Biochim Biophys Acta. 2000 Jun 1;1466(1-2):71-8. PubMed PMID: 10825432.

Pictures:

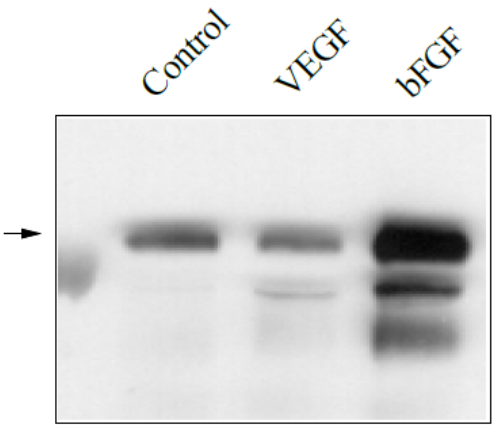
Up-regulation of VEGFR-2 in vein ECs of an intact Human umbilical cord by bFGF:
A fresh human umbilical cord was rinsed with PBS to remove residual blood cells, cut in small pieces (about 0.5 cm), incubated in EBM (1% FCS) and stimulated with or without 20 ng/ml bFGF for 24 h. Pieces were frozen in liquid nitrogen and used for immunohistochemistry using the mab anti-human VEGFR-2 antibody Cat.-No DM3523P as detection antibody. (*Bernhard Barleon et al.*, unpublished data!)



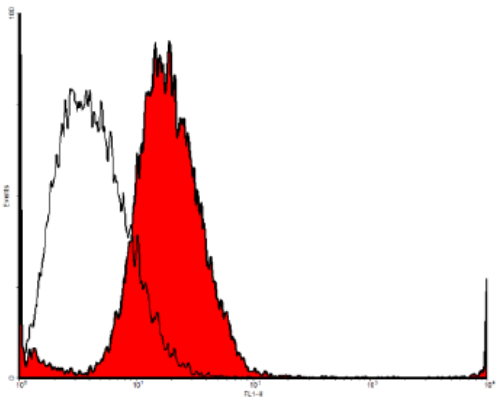
Recombinant human endogenous soluble VEGFR-2/KDR (esKDR) was produced in insect cells. Western blot was performed using our monoclonal anti-VEGFR-2 #4 (Cat.-No DM3523P) recognizing the soluble as well as the transmembrane form of KDR (left panal) ad the new poyclonal antibody (Cat.-No AP26034PU-L) directed against the unique C-terminal end of the endogenous sKDR (CGRETILDHSAEAVGMP) recognizing solely the endogenous form but not sKDR (D7) and sKDR (D7)-Fc consisting of the full extraplasmatic domain. The endogenous sKDR generated by alternative splicing consists of the first 6 Ig-like loops with a unique c-terminal end.



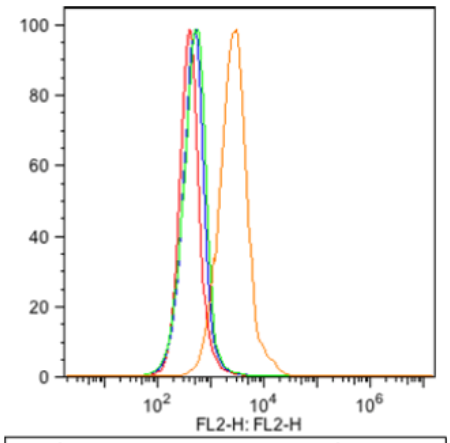
Up-regulation of VEGFR-2 in primary HUVECs by bFGF: Freshly isolated HUVECs (passage 1) were cultured in EBM. Subconfluent cultures were stimulated with VEGF (5 ng/ml) or bFGF (10 ng/ml) for 3 days. Total lysate was prepared and subjected to immunoprecipitation (anti-human VEGFR-2 Antibody Cat.-No DM3522P)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



FACS analysis with primary human dermal lymphatic endothelial cells (HDLEC).



FACS analysis of VEGFR-2/KDR expression in HUVE cells [5µg/ml #DM3523P; 5µg/ml PE goat anti-mouse IgG]. The experiment was performed by Trisha M. Westerhof, University of California, Irvine.



Sample	Mean:FL2-H
C07 22H-CD309(20I6)PE2.fcs	3945
C03 18H- PE2.fcs	566
C02 17H- MIgG1 PE2.fcs	546
C01 16H- unstained HUVECs.fcs	468