OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850
UNITED STATES
Phone: +1-888-267-4436
Fax: +1-301-340-8606
techsupport@origene.com

OriGene Technologies GmbH
Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info-de@origene.com

DA3531 Human CD309 / VEGFR-2 / Flk-1 (D1-7) (Fc Chimera) - 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: 50 µg

Background: Endothelial cells express three different vascular endothelial growth factor (VEGF) receptors, belonging to the family of receptor tyrosine kinases (RTKs). They are named VEGFR-1 (Flt-1), VEGFR-2 (KDR/Flk-1), and VEGFR-3 (Flt-4). Their expression is almost exclusively restricted to endothelial cells, but VEGFR-1 can also be found on monocytes. All VEGF-receptors have seven immunoglobulin-like extracellular domains, a single transmembrane region and an intracellular split tyrosine kinase domain. VEGFR-2 has a lower affinity for VEGF than the Flt-1 receptor, but a higher signalling activity. Mitogenic activity in endothelial cells is mainly mediated by VEGFR-2 leading to their proliferation. Differential splicing of the flt-1 gene leads to the formation of a secreted, soluble variant of VEGFR-1 (sVEGFR-1). No naturally occurring, secreted forms of VEGFR-2 have so far been reported. The binding of VEGF165 to VEGFR-2 is dependent on heparin.

Uniprot ID: P35968

NCBI: NP_002244.1

GeneID: 3791

Species: Human

Source: Insect cells

Format: **State:** Lyophilized purified protein
Purity: >90% by SDS-PAGE and visualised by silver stain.
Buffer System: PBS, pH 7.2 without stabilizers.
Endotoxin Level: < 0.1 ng per µg of sVEGFR-2.
Reconstitution: The lyophilized sVEGFR-2/Fc should be restored in water or medium to a concentration not lower than 50 µg/ml.

Description: Recombinant Human soluble Vascular Endothelial Growth Factor Receptor-2 (sVEGFR-2 D1-7) was fused with the Fc part of Human IgG1. The recombinant mature sVEGFR-2 D1-7/Fc is a disulfide-linked homodimeric protein. The sVEGFR-2 D1-7/Fc monomers have a mass of approximately 160 kDa. The soluble receptor protein consists of all 7 extracellular domains (Met1-Ala757), which contain all the information necessary for high affinity ligand binding.

AA Sequence:

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ASVGLPSVSLDLPRLSIQKDILTIKANTTLQITCRGQRDLDWLWPNNQSGSEQRVEVTECSDGLFCKTLTIP
KVIGN
DTGAYKCFYRETDLASVIYVYVQDYRSPFIASVSDQHGVVYITENKNKTVVIPCLGSISNLNVSLCARYPEK
RFVPD
GNRISWDSKKGFTIPSYMISYAGMVFCEAKINDESYQSIMYIVVVVGYRIYDVVLSPSHGIELSVGEKLVLN
CTART
ELNVGIDFNWEYPSSKHQHKKLVNRDLKTQSGSEMKKFLSTLTIDGVTRSDQGLYTCAASSGLMTKKNSTFV
RVHEK
PFVAFGSGMESLVEATVGERVRIPAKYLGYPPPEIKWYKNGIPLESNHTIKAGHVLTIMEVSERDTGNYTVI
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LTNPI
SKEKQSHVVSLVVYVPPQIGEKSLISPVDSYQYGTTQTLTCTVYAIPPPHHIHWYWQLEEECANEPSQAVSV
TNPYP
CEEWRSVEDFQGGNKIEVNKNQFALIEGKNKTVSTLVIQAANVSALYKCEAVNKVGRGERVISFHVTRGPEI
TLQPD
MQPTEQESVSLWCTADRSTFENLTWYKLGPQPLPIHVGELPTPVCKNLDTLWKLNATMFSNSTNDILIMELK
NASLQ
DQGDYVCLAQDRKTKKRHCVVRQLTVLERVAPTITGNLENQTTSIGESIEVSCTASGNPPPQIMWFKDNETL
VEDSG
IVLKDGNRNLTIRRVRKEDEGLYTCQACSVLGCAKVEAFFIIEGANASDKTHTCPPCPAPELLGGPSVFLFP
PKPKD
TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC
KVSNK
ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPML
DSDGS
FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

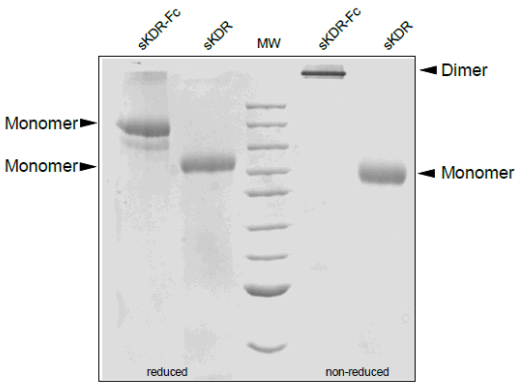
Biological Activity: The activity of sVEGFR-2/Fc was determined by its ability to inhibit the VEGF-dependent proliferation of Human umbilical vein endothelial cells.
The ED50 for this effect is typically 10-30 ng/ml.
Molecular weight: 160 kDa (Monomer)

Add. Information: Centrifuge vials before opening!

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. Röckl et al., Exp Cell Res 241:161, 1998.

Pictures: SDS-PAGE analysis of recombinant human soluble KDR(D7) and sKDR(D7)-Fc derived from insect cells. Samples were loaded in 10% SDS polyacrylamide gel under reducing and non-reducing conditions and stained with Silver stain. As you can see sKDR (D7)-Fc is able to form dimers whereas sKDR (D7) is not.



SDS-PAGE (10%)

Inhibition of the VEGF165-induced proliferation of HUVE cells by recombinant human and mouse sKDR(D7)-Fc and sFlk-1(D7)-Fc. HUVECs were stimulated with 10 ng/ml VEGF165, both soluble receptors were added with a 100X excess.