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California Bioscience

Product Datasheet

Product Name	Vascular Endothelial Growth Factor Receptor-2 Fc Chimera Human Recombinant
Cata No	CB500849
Source	*Insect Cells*
Synonyms	KDR D1-7, sKDR D1-7, Kinase insert domain receptor, Protein-tyrosine kinase receptor Flk-1, CD309, type III receptor tyrosine kinase, FLK1, VEGFR-2.

Description

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), 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 signaling 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 occuring, secreted forms of VEGFR-2 have so far been reported. The binding of $VEGF_{165}$ to VEGFR-2 is dependent on heparin. Soluble VEGFR-2 Fc Human Recombinant fused with the Fc part of human IgG_1 produced in baculovirus is a disulfide-linked homodimeric, glycosylated, polypeptide containing 757 amino acids and having a molecular mass of 160 kDa. The soluble receptor protein contains only the first 7 extracellular domains, which contain all the information necessary for ligand binding.

The sKDR Fc Chimera is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

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 ED_{50} for this effect is typically 10-30 ng/ml.

Purity

Greater than 90.0% as determined by:
(a)Analysis by RP-HPLC.
(b)Analysis by SDS-PAGE.

Formulation

KDR fusion protein was lyophilized from a concentrated (1 mg/ml) sterile solution containing 1x PBS pH-7.4.

Reconstitution

It is recommended to reconstitute the lyophilized VEGFR2 in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized VEGFR-2 Fc/Chimera protein although stable at room temperature for 3 weeks, should be stored desiccated below -18℃. Upon reconstitution FLK1 should be stored at 4℃ between 2-7 days and for future use below -18℃.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

*** For Non-Clinical Research Use Only ***

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Please prevent freeze-thaw cycles.

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