sVEGFR-2 (D1-7), human recombinant

Catalog No: 56131
Lot No: XXXXX
Source: Insect cells
Synonyms: Soluble vascular endothelial growth factor receptor-2, soluble CD309, soluble VEGF receptor-2, sKDR

Background

Recombinant Human soluble Endothelial Growth Factor Receptor-2 (sKDR(D7)) is produced as a non-chimeric protein in a monomeric form. The soluble receptor protein consists of all 7 extracellular domains, which contain all the information necessary for high affinity ligand binding. The receptor monomers have a mass of approximately 116 kDa. 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. The binding of VEGF165 to VEGFR-2 is dependent on heparin.

Description

Human recombinant soluble VEGFR-2 (D1-7) produced in insect cells is a 116 kDa monomer containing 738 amino acids.

Physical Appearance

Lyophilized powder.

Formulation

Lyophilized from a solution containing 25 mM MES, 100 mM NaCl pH 5.5.

Solubility

The lyophilized human sKDR is soluble in water and most aqueous buffers, it should be reconstituted in water or PBS to a concentration of not lower than 100 µg/ml.

Stability

The material is stable for greater than six months at -20°C to -70°C. After the first thawing it is recommended to aliquote the material, because repeated freeze-thaw cycles will decrease the activity. Store at 4°C not longer than 2 days. Avoid repeated freeze-thaw cycles.

Purity

>95% by SDS-PAGE & visualized by silver stain.

Amino Acid Sequence

ASVGLPSVSL DLPRLSIQKD ILTIKANTTL QITCRGQRDL DWLWPNNQSG SEQRVEVTEC SDGLFCKTLT IPKVIGNDTG
AYKCFYRETD LASVIYVYVQ DYRSPFIASV SDQHGVVYIT ENKNKTVVIP CLGSISNLNV SLCARYPEKR FVPDGNRISW
DSKKGFTIPS YMISYAGMVF CEAKINDESY QSIMYIVVVV GYRIYDVVLS PSHGIELSVG EKLVLNCTAR TELNVGIDFN
WEYPSSKHQH KKLVNRDLKT QSGSEMKKFL STLTIDGVTR SDQGLYTCAA SSGLMTKKNS TFVRVHEKPF VAFGSGMESL
VEATVGERVR IPAKYLGYPP PEIKWYKNGI PLESNHTIKA GHVLTIMEVS ERDTGNYTVI LTNPISKEKQ SHVVSLVVYV
PPQIGEKSLI SPVDSYQYGT TQTLTCTVYA IPPPHHIHWY WQLEEECANE PSQAVSVTNP YPCEEWRSVE DFQGGNKIEV
NKNQFALIEG KNKTVSTLVI QAANVSALYK CEAVNKVGRG ERVISFHVTR GPEITLQPDM QPTEQESVSL WCTADRSTFE
NLTWYKLGPQ PLPIHVGELP TPVCKNLDTL WKLNATMFSN STNDILIMEL KNASLQDQGD YVCLAQDRKT KKRHCVVRQL
TVLERVAPTI TGNLENQTTS IGESIEVSCT ASGNPPPQIM WFKDNETLVE DSGIVLKDGN RNLTIRRVRK EDEGLYTCQA
CSVLGCAKVE AFFIIEGA

Activity

Measured by its ability to inhibit the VEGF165-induced proliferation in human umbilical vein endothelial (HUVEC) cells.

Usage

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