
Product Data Sheet

Product Name: FLT1 D7 Human

Cat. No.: GP22512

Batch No.: 1

Product Data

Purity >98%

Source Insect Cells.

Physical
Appearance

solid

Shipping
Condition Shipped at Room temp.

Synonyms

FLT-1; FLT1; Tyrosine-protein kinase receptor FLT; Flt-1; Tyrosine-protein kinase FRT; Fms-like tyrosine kinase 1; VEGFR-1.

Amino Acid
Sequence

MVSYWDTGVL LCALLSCLLL TGSSSGSKLK DPELSLKGQTQ HIMQAGQTLH
 LQCRGEEAAHK WSLPEMVSKE SERLSITKSA CGRNGKQFCS TLTNTAQAN
 HTGFYSCKYL AVPTSKKKET ESAIYIFISD TGRPFVEMYS EIPEIIHMTE
 GRELVIPCRV TSPNITVTLK KFPLDTLIPD GKRIIWDSRK GFIISNATYK
 EIGLLTCEAT VNGHLYKTNY LTHRQNTNII DVQISTPRPV KLLRGHTLVL
 NCTATTPLNT RVQMTWSYPD EKNKRASVRR RIDQSN SHAN IFYSVLTIDK
 MQNKDKGLYT CRVRSGPSFK SVNTSVHIYD KAFITVKHRK QQVLETVAGK
 RSYRLSMKVK AFPSPEVVWL KDGLPATEKS ARYLTRGYSL IIKDVTEEDA
 GNYTILLSIK QSNVFNKLTALIVNVKPKIYEKAVSSFPD PALYPLGSRQ
 ILTCTAYGIP OPTIKWFWHP CNHNHSEARC DFCSNNEESF ILDADSNMGN
 RIESITQRMA IIEGKNKMAS TLVVADSRIS GIYICIASNK VGTVGRNISF
 YITDVPNGFH VNLEKMPTEG EDLKLSTVN KFLYRDVTWI LLRTVNNRTM
 HYSISKQKMA ITKEHSITLN LTIMNVSLQD SGTYACRARN VYTGEEILQK
 KEITIRDQEA PYLLRNLS DH TVAISSSTTL DCHANGVPEP QITWFKNNHK
 IQQEPGIILG PGSSTLFIER VTEDEGVYH CKATNQKGSV ESSAYLTVQG
 TAASDKTHTC PPCPAPELLG GPSVFLFPPK PKDTLMISRT PEVTCVVVDV
 SHEDPEVKFN WYVDGVEVHN AKTKPREEQY NSTYRVVSVL TVLHQDWLNG
 KEYKCKVSNK ALPAPIEKTI S.

Solubility

It is recommended to reconstitute the lyophilized FLT1 Fc/Chimera in PBS not less than 50µg/ml, which can then be further diluted to other aqueous solutions.

Caution: Product has not been fully validated for medical applications. For research use only.

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Formulation FLT1 D1-7 was lyophilized from a concentrated (1 mg/ml) sterile solution containing PBS Buffer, pH 7.4.

Introduction

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.

Biological Activity

The activity of FLT1/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, corresponding to a specific activity of 33,333.33-100,000 units/mg.

Stability

Lyophilized FLT-1 although stable at room temperature for 3 weeks, should be stored desiccated below -18C. Upon reconstitution FLT1 should be stored at 4C between 2-7 days and for future use below -18C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Background

Soluble FLT1 Human Recombinant fused with the Fc part of human IgG1 produced in baculovirus is disulfide-linked homodimeric, glycosylated, polypeptide containing 751 amino acids and having a molecular mass of 130 kDa. The soluble receptor protein contains only the first 7 extracellular domains (Met1-Thr751), which contain all the information necessary for high affinity ligand binding. The FLT1 fc/Chimera is purified by proprietary chromatographic techniques.

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