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California Bioscience

Product Datasheet

Product Name	Vascular Endothelial Growth Factor Receptor-1 D5 Human Recombinant
Cata No	CB500845
Source	*Insect Cells*
Synonyms	FLT-1, FLT1, Tyrosine-protein kinase receptor FLT, Flt-1, Tyrosine-protein kinase FRT, Fms-like tyrosine kinase 1, VEGFR-1.

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, dendritic cells and on trophoblast cells. The *flt-1* gene was first described in 1990. The receptor contains seven immunoglobulin-like extracellular domains, a single transmembrane region and an intracellular splited tyrosine kinase domain. Compared to VEGFR-2 the Flt-1 receptor has a higher affinity for VEGF but a weaker signaling activity. VEGFR-1 thus leads not to proliferation of endothelial cells, but mediates signals for differentiation. Interestingly a naturally occuring soluble variant of VEGFR-1 (sVEGFR-1) was found in HUVE supernatants in 1996, which is generated by alternative splicing of the *flt-1* mRNA. The biological functions of sVEGFR-1 still are not clear, but it seems to be an endogenous regulator of angiogenesis, binding VEGF with the same affinity as the full-length receptor..
Soluble FLT1 D1-5 Human Recombinant produced in baculovirus is monomeric, glycosylated, polypeptide containing 562 amino acids and having a molecular mass of 70 kDa. The soluble receptor protein contains only the first 5 extracellular domains, which contain all the information necessary for binding of VEGF.
The FLT1 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Biological Activity

The activity of FLT1 D5 was determined by its ability to abolish the binding of iodinated VEGF to solid surfaces or cell surfaces. The ED_{50} for this effect is typically 10 ng/ml. In a 13 day CAM-assay sVEGFR-1 is able to inhibit VEGF stimulated sprouting of capillaries at 30 pM

Purity

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

Formulation

FLT1 D1-5 was lyophilized from a concentrated (1 mg/ml) sterile solution containing no additives.

Reconstitution

It is recommended to reconstitute the lyophilized FLT1 D5 in sterile water not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized FLT-1 although stable at room temperature for 3 weeks, should be stored desiccated below -18℃. Upon reconstitution FLT1

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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).
Please prevent freeze-thaw cycles.