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Human soluble VEGFR-1 (D5) recombinant protein

ORDERING INFORMATION

Catalog No: rAP-0279

Size: 2 µg; 10µg

Storage: <- 20° C

Synonyms: FLT-1, FLT1, Tyrosine-protein kinase receptor FLT, Flt-1, Tyrosine-protein kinase FRT, Fms-like tyrosine kinase 1, VEGFR-1.

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/Fik-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 split 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 occurring 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..

Description: Soluble VEGFR-1 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 VEGFR1 is purified by proprietary chromatographic techniques.

Source: *Insect Cells*

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation:

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

Solubility: It is recommended to reconstitute the lyophilized sVEGFR-1 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°C. Upon reconstitution FLT1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). **Please prevent freeze-thaw cycles.**

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

Biological Activity:

The activity of VEGFR-1 D5 was determined by its ability to abolish the binding of iodinated VEGF to solid surfaces or cell surfaces. The ED₅₀ 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.

Usage: Angio-Proteomie's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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