

Rat VEGFR1 / FLT-1 Protein (His Tag)

Catalog Number: 80101-R08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

FLT1

Protein Construction:

A DNA sequence encoding the rat FLT1 (P53767) (Met1-Glu758) was expressed with a polyhistidine tag at the C-terminus.

Source: Rat

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio-activity:

Measured by its ability to inhibit VEGF-dependent proliferation of human umbilical vein endothelial cells (HUVEC). The ED_{50} for this effect is typically 15-70 ng/mL in the presence of 10 ng/mL rmVEGF164.

Endotoxin:

< 1.0 EU per μ g of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Tyr 23

Molecular Mass:

The recombinant rat FLT1 comprises 747 amino acids and predicts a molecular mass of 84 kDa. The apparent molecular mass of the recombinant protein is approximately 108-114 kDa in SDS-PAGE under reducing conditions due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

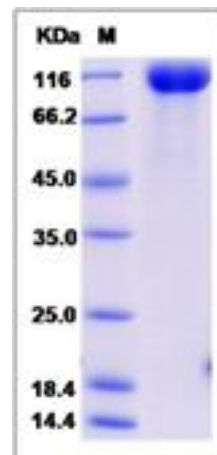
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Vascular endothelial growth factor receptor 1, also known as VEGFR-1, Fms-like tyrosine kinase 1, Tyrosine-protein kinase FRT, Tyrosine-protein kinase receptor FLT, Vascular permeability factor receptor and FLT1, is a single-pass type I membrane protein and secreted protein which belongs to the protein kinase superfamily, Tyr protein kinase family and CSF-1/PDGF receptor subfamily. VEGFR-1 / FLT1 contains seven Ig-like C2-type (immunoglobulin-like) domains and one protein kinase domain. VEGFR-1 / FLT1 is expressed mostly in normal lung, but also in placenta, liver, kidney, heart and brain tissues. It is specifically expressed in most of the vascular endothelial cells, and also expressed in peripheral blood monocytes. VEGFR-1 / FLT1 is not expressed in tumor cell lines. VEGFR-1 / FLT1 is an essential receptor tyrosine kinase that regulates mammalian vascular development and embryogenesis. EGF-induced angiogenesis requires inverse regulation of VEGFR-1 and VEGFR-2 in tumor-associated endothelial cells. VEGFR-1 / FLT1 is a receptor for VEGF, VEGFB and PGF. It has a tyrosine-protein kinase activity. The VEGF-kinase ligand/receptor signaling system plays a key role in vascular development and regulation of vascular permeability.

References

1. Shibuya M., *et al.*, (1990), Nucleotide sequence and expression of a novel human receptor-type tyrosine kinase gene (flt) closely related to the fms family. *Oncogene* 5:519-524.
2. Kendall R.L., *et al.*, (1993), Inhibition of vascular endothelial cell growth factor activity by an endogenously encoded soluble receptor. *Proc. Natl. Acad. Sci. U.S.A.* 90:10705-10709.
3. Herley M.T., *et al.*, (1999), Characterization of the VEGF binding site on the Flt-1 receptor. *Biochem. Biophys. Res. Commun.* 262:731-738.

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