

Product: Vascular Endothelial Growth Factor-C-152, Rat, Recombinant
Catalog #: 11-VEGF-C152R
Amount: 5 µg

DESCRIPTION:

Recombinant Rat Vascular Endothelial Growth Factor-C-152 (rrVEGF-C152)
VEGF-C152S is a point mutant generated by the replacement of the second conserved Cys residue of the recombinant processed VEGF-C by a Ser residue. VEGF-C 152S is analog to the human VEGF-C 156S mutant and only active toward VEGFR-3/FLT -4 but, unlike wild type VEGF-C, is unable to bind to and to activate signalling through VEGFR-2/KDR. VEGF-C152S was inactive in the vascular permeability assay and did not increase migration of the capillary endothelial cells, indicating that these VEGF-like effects of VEGF-C require VEGFR-2 binding.

VEGF-C, also known as Vascular Endothelial Growth Factor Related Protein (VRP), is a recently discovered VEGF growth factor family member that is most closely related to VEGF-D. The rat VEGF-C cDNA encodes a pre-pro-protein of 416 amino acids residues. It is almost identical to the mouse VEGF-C protein. Similar to VEGF-D, VEGF-C has a VEGF homology domain spanning the middle third of the precursor molecule and long N- and C-terminal extensions. In adults, VEGF-C is highly expressed in heart, placenta, ovary and small intestine. Recombinant rat VEGF-C, lacking the N- and C-terminal extensions and containing only the middle VEGF homology domain, forms primarily non-covalently linked dimers. This protein is a ligand for both VEGFR-2/KDR and VEGFR-3/FLT -4. Since VEGFR-3 is strongly expressed in lymphatic endothelial cells, it has been postulated that VEGF-C is involved in the regulation of the growth and/or differentiation of lymphatic endothelium. Although recombinant rat VEGF-C is also a mitogen for vascular endothelial cells, it is much less potent than VEGF-A.

The recombinant rat VEGF-C contains 129 amino acids residues and was fused to a His -tag (6x His) at the C-terminal end. As a result of glycosylation VEGF-C migrates as an 18-24 kDa protein in SDS-PAGE under reducing conditions.

SOURCE:

Insect cells (Sf9)

PURITY:

Greater than 90.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Anion-exchange FPLC.
- (c) Analysis by reducing and non-reducing SDS-PAGE Silver-Stained gel.

ENDOTOXIN:

Less than 0.1 ng/µg (IEU/µg) of rrVEGF

DIMERS & AGREGATES:

Less than 1% as determined by silver-stained SDS-PAGE gel analysis

FORM:

Purified

PROTEIN CONTENT:

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm
2. Analysis by RP-HPLC, using a calibrated solution of VEGF as a Reference Standard.

STORAGE:

-20°C (aliquot), avoid repeated freeze and thaw cycles.

BIOLOGICAL ACTIVITY:

rrVEGF-C152 is fully biologically active when compared to standards

Measured by its ability to stimulate phosphorylation of the VEGFR-3/FLT-4 receptor in porcine aortic endothelial cells (PAE/FLT -4 cells). The ED50 for this effect is typically 150-300 ng/ml, corresponding to a specific activity of 5×10^3 Units/mg

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