

DA3520**Rat VEGF-C / Flt4-L (VEGF-C152S) - Purified****Alternate names:**

Flt4 ligand, VEGFC, VRP, Vascular endothelial growth factor C, Vascular endothelial growth factor-related protein

Quantity:

5 µg

Background:

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.

Uniprot ID:

[O35757](#)

NCBI:

[NP_446105.1](#)

GeneID:

[114111](#)

Species:

Rat

Source:

Insect cells

Format:

State: Lyophilized protein

Purity: >90% by SDS-PAGE and visualised by silver stain

Buffer System: 50 mM Acetic Acid

Stabilizers: BSA

Endotoxin Level: < 0.1 ng per µg of VEGF-C152S

Reconstitution: The lyophilized VEGF-C152S is soluble in water and most aqueous buffers. Restore in PBS or medium to a concentration not lower than 50 µg/ml.

Description:

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-C152S is analog to the human VEGF-C156S 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.

Biological Activity: 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.

Molecular weight: 18-24 kDa (127 amino acids)

Storage:

Store lyophilized at 2-8°C for 6 months or at -20°C long term.

After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

1. Joukov V, Kumar V, Sorsa T, Arighi E, Weich H, Saksela O, et al. A recombinant mutant vascular endothelial growth factor-C that has lost vascular endothelial growth factor receptor-2 binding, activation, and vascular permeability activities. *J Biol Chem.* 1998 Mar 20;273(12):6599-602. PubMed PMID: 9506953.
2. Joukov V, Pajusola K, Kaipainen A, Chilov D, Lahtinen I, Kukk E, et al. A novel vascular endothelial growth factor, VEGF-C, is a ligand for the Flt4 (VEGFR-3) and KDR (VEGFR-2) receptor tyrosine kinases. *EMBO J.* 1996 Jan 15;15(2):290-98. PubMed PMID: 8617204.
3. Olofsson B, Jeltsch M, Eriksson U, Alitalo K. Current biology of VEGF-B and VEGF-C. *Curr Opin Biotechnol.* 1999 Dec;10(6):528-35. PubMed PMID: 10600689.
4. Kirkin V, Mazitschek R, Krishnan J, Steffen A, Waltenberger J, Pepper MS, et al. Characterization of indolinones which preferentially inhibit VEGF-C- and VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2. *Eur J Biochem.* 2001 Nov;268(21):5530-40. PubMed PMID: 11683876.