

Human Recombinant VEGF-C

Vascular endothelial growth factor C

Catalog #78202 10 µg

Catalog #78202.1 50 µg

Product Description

Vascular endothelial growth factor C (VEGF-C) is a member of the VEGF/platelet-derived growth factor (PDGF) family of proteins. VEGF-C is a potent angiogenic factor and promotes lymphangiogenesis, endothelial cell growth and survival, and can affect blood vessel permeability. VEGF-C is expressed in a range of tissues, but is not expressed in peripheral blood lymphocytes. VEGF-C forms a noncovalent, cell surface-associated, disulfide-linked homodimer that can bind and activate VEGF receptors 2 (VEGFR-2 [Flk1]) and 3 (VEGFR-3 [Flt4]). Interaction with VEGFR-2 results in physiological and intratumoral neoangiogenesis and vessel sprouting (Cao et al.; Tammela et al.), whereas interaction with VEGFR-3 is critical for lymphangiogenesis (Karkkainen et al.; Laakkonen et al.; Mäkinen et al.). Overexpression of VEGF-C in tumor cells has been shown to result in enhanced lymph flow and increased metastasis to regional lymph nodes (Hoshida et al.; Mandriota et al.; Padera et al.; Skobe et al.).

Product Information

Alternative Names:	Flt4-L, Flt4 ligand, Vascular endothelial growth factor C, Vascular endothelial growth factor-related protein, VRP
Accession Number:	P49767
Amino Acid Sequence:	MAHYNTEILK SIDNEWRTQ CMPREVCIDV GKEFGVATNT FFKPPCVSVY RCGGCCNSEG LQCMNTSTSY LSKTLFEITV PLSQGPKPVT ISFANHTSCR CMSKLDVYRQ VHSIIRR
Predicted Molecular Mass:	13.2 kDa
Species:	Human
Product Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	HEK 293
Purity:	≥ 95%

Specifications

Activity:	The specific activity is $\geq 2.0 \times 10^3$ units/mg ($EC_{50} \leq 500$ ng/mL) as determined by a cell proliferation assay using human umbilical vein endothelial cells (HUVECs).
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Stability and Storage:

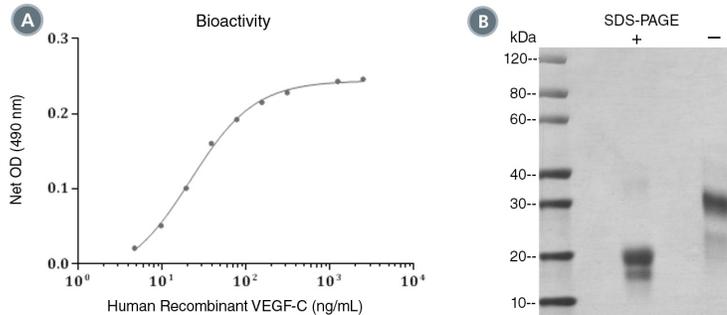
Store at -80°C . Stable as supplied for 12 months from date of receipt.

Preparation:

Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at $2 - 8^{\circ}\text{C}$ for more than 1 week or at -20°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant VEGF-C was tested by its ability to promote the proliferation of HUVECs. Cell proliferation was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC₅₀ in the example above is less than 500 ng/mL.

(B) 2 μg of Human Recombinant VEGF-C was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant VEGF-C has a predicted molecular mass of 13.2 kDa.

Related Products

For a complete list of cytokines or peptide pools, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

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- Padera TP et al. (2002) Lymphatic metastasis in the absence of functional intratumor lymphatics. *Science* 296(5574): 1883-6.
- Skobe M et al. (2001) Induction of tumor lymphangiogenesis by VEGF-C promotes breast cancer metastasis. *Nat Med* 7(2): 192-8.
- Tammela T et al. (2008) Blocking VEGFR-3 suppresses angiogenic sprouting and vascular network formation. *Nature* 454(7204): 656-60.

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