

Recombinant Mouse VEGF-C (carrier-free)

Catalog# / Size	775102 / 10 µg 775104 / 25 µg 775106 / 100 µg
Regulatory Status	RUO
Other Names	Vascular Endothelial Growth Factor C, VEGFC, Vascular Endothelial Growth Factor-Related Protein, VRP
Description	<p>VEGF-C was initially cloned from human prostatic adenocarcinoma cell line PC-3 and human glioma G61 cell cDNA libraries. VEGF-C belongs to the VEGF family that includes the following members, VEGF-A, VEGF-B, VEGF-C, VEGF-D, and PlGF (placental growth factor). In addition, viral VEGF homologs (collectively called VEGF-E) and snake venom VEGFs such as T.f. (Trimeresurus flavoviridis) and svVEGF (called VEGF-F) have been described. The homologous portions of VEGF-C are ~30% identical to VEGF165, ~27% to VEGF-B167, ~25% to PlGF-1, and ~22-24% to PDGF-A and PDGF-B. VEGF-C possesses a C-terminal silk-protein-like structural motif (pattern of spacing cysteine residues) not present in other member of the VEGF family. VEGF-C binds to VEGFR3 that is almost exclusively expressed in lymphatic endothelium in adults, whereas in embryos (mid-gestation) it is expressed on blood vessels and is required for blood vascular remodeling. VEGFR3 is shared by VEGF-C and VEGF-D. VEGF-C is required for sprouting of the first lymphatic vessels from embryonic veins. Also, VEGF-C promotes survival of retinal vascular endothelial cells via VEGFR2. High levels of VEGF-C (in serum) have been associated to dyslipidemia and atherosclerosis. In addition, elevated levels of VEGF-C are increased in the serum of patients with some cancers (primary nonsmall cell lung carcinoma, cervical carcinoma, and gastric cancer among others) and it has been suggested that it is correlated with lymph node metastases and poor prognosis.</p>

Product Details

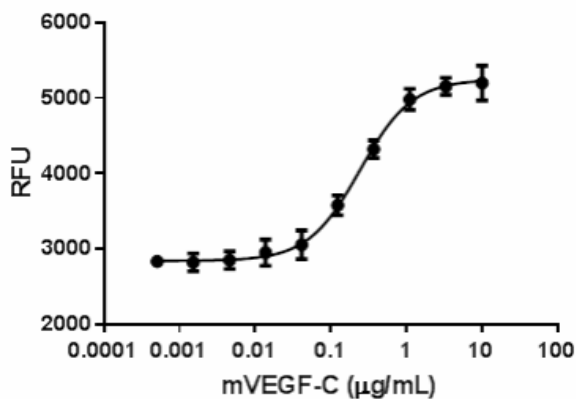
Source	Mouse VEGF-C, amino acids Ser102-Arg223 (Accession # BC096377) with a C-terminal 10-His tag was expressed in CHO cells.
Molecular Mass	The 137 amino acid recombinant protein has a predicted molecular mass of approximately 15.4 kD. The DTT-reduced protein migrates at approximately 18-24 kD and non-reduced protein migrates at approximately 20-23 kD by SDS-PAGE. The predicted N-terminal amino acid is Ser.
Purity	> 95%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 10 mM Sodium Phosphate, 0.3 M NaCl, pH 7.2.
Endotoxin Level	Less than 0.1 EU per µg protein as determined by the LAL method.
Concentration	10-25 µg sizes are bottled at 200 µg/mL. 100 µg size is bottled at the concentration indicated on the vial.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	ED ₅₀ = 0.07 - 0.35 µg/mL as measured by the ability of the protein to induce proliferation of HMVEC. Deep Blue Cell Viability Kit (Cat. No. 424702) was used to quantitate cell proliferation.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .

Antigen Details

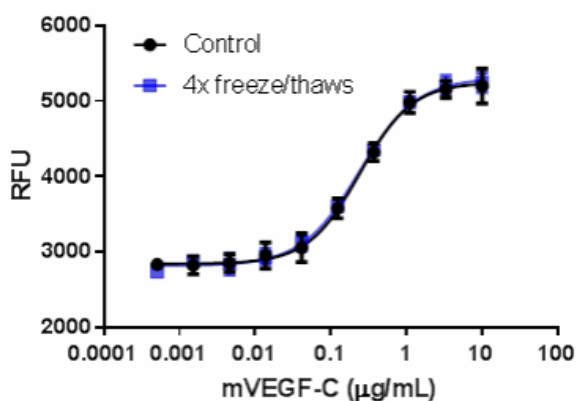
Structure	Homodimer
Distribution	VEGF-C messenger RNA is expressed in multiple tissues such as heart, placenta, muscle, ovary, and small intestine.
Function	VEGF-C plays a key role in lymphangiogenesis, stimulates the migration, proliferation, and survival of human endothelial cells. Survivin regulates expression of VEGF-C in breast cancer cells. VEGF-C is induced by IL-1 and TNF in endothelial cells.
Interaction	Lymphatic endothelial cells, endothelial cells, and subsets of leukemic cells.
Ligand/Receptor	VEGFR3 (Flt4), VEGFR2 (KDR/FLK1), VEGFR2/VEGFR3 heterodimer.
Bioactivity	Measured by its ability to induce HMVEC proliferation.
Cell Type	Hematopoietic stem and progenitors, Mesenchymal Stem Cells, Neural Stem Cells
Biology Area	Angiogenesis, Cell Biology, Neuroscience, Stem Cells, Synaptic Biology
Molecular Family	Cytokines/Chemokines, Growth Factors
Antigen References	<ol style="list-style-type: none">1. Joukov V, et al. 1996. <i>EMBO J.</i> 15:290.2. Dias S, et al. 2002. <i>Blood.</i> 99:2179.3. Karkkainen MJ, et al. 2004. <i>Nat. Immunol.</i> 5:74.4. Nilsson I, et al. 2010. <i>EMBO J.</i> 8:1377.5. Tanaka T, et al. 2010. <i>J. Exp. Clin. Cancer Res.</i> 29:83.6. Wada H, et al. 2011. <i>Plos One.</i> 6:e29351.7. Cai X, et al. 2012. <i>Diagn. Pathol.</i> 7:52.

Gene ID [22341](#)

Product Data



Mouse VEGF-C induces proliferation of HMVEC human microvascular endothelial cells in a dose dependent manner. ED₅₀ for this effect is 0.07 - 0.35 µg/mL.



Stability testing for Mouse VEGF-C. Mouse VEGF-C was aliquoted in 10 mM Sodium Phosphate, 0.3 M NaCl, pH 7.2 at 0.2 mg/mL. One aliquot was frozen and thawed four times (4x freeze/thaws), and compared to a control kept at 4°C (control). The samples were tested for their ability to induce proliferation of HMVEC human microvascular endothelial cells.

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