Recombinant Human VEGF-C

Catalog Number: 9199-VC/CF

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived Ala112-Arg227 Accession # P49767
N-terminal Sequence Analysis	Ala112
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	13 kDa

SPECIFICATIONS

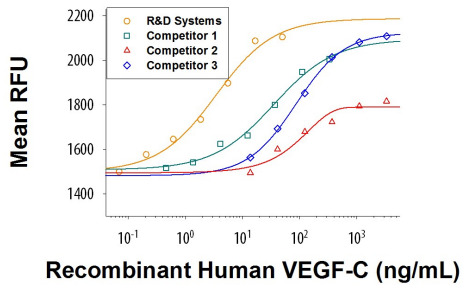
SDS-PAGE	13-20 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using HMVEC human microvascular endothelial cells. Marconcini, L. *et al.* (1999) Proc. Natl. Acad. Sci. USA **96**:9671. The ED_{50} for this effect is typically 1.5-9 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in HCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in 4 mM HCl.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



Recombinant Human VEGF-C (Catalog # 9199-VC/CF) induces HMVEC human microvascular endothelial cell proliferation. The ED_{50} for this effect is typically 1.5-9 ng/mL. The ED_{50} for the three competitors is > 30 ng/mL, which is at least more than 10-fold weaker.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

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BACKGROUND

Vascular endothelial growth factor C (VEGF-C) and VEGF-D constitute a subfamily of the angiogenic VEGF angiogenic factors (1). VEGF-C is synthesized as a 58 kDa molecule that consists of a VEGF homolgy domain (VHD) flanked by N- and C-terminal propeptides. The proprotein undergoes covalent homodimerization and stepwise proteolytic processing to generate ligands with increasing affinity for VEGF R3/Flt-4 (2-4). Fully processed VEGF-C containing just the 21 kDa VHD can additionally bind and activate VEGF R2/KDR/Flk-1 (2, 4). Fully processed human VEGF-C shares 98% amino acid sequence identity with mouse and rat VEGF-C. VEGF-C interactions with VEGF R3 are critical for lymphangiogenesis (5-8). VEGF-C and VEGF R3 are usually co-expressed at sites with lymphatic vessel sprouting, in the embryo, and in various pathological conditions. Over-expression of VEGF-C in tumor cells induces tumoral lymphatic hyperplasia, resulting in enhanced lymph flow and metastasis to regional lymph nodes (9-12). It also induces physiological and intratumoral neoangiogenesis and vessel sprouting through interactions with VEGF R2 (8, 13, 14).

References:

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bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956