**Recombinant Human VEGF-C**

**Catalog Number:** 9199-VC

### 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**
The ED<sub>50</sub> for this effect is 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 with BSA as a carrier protein. 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) induces HMVEC human microvascular endothelial cell proliferation. The ED<sub>50</sub> for this effect is 1.5-9 ng/mL. The ED<sub>50</sub> for the three competitors is >30 ng/mL, which is at least more than 10-fold weaker.
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 homology 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/Flk1 (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 tumor 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: