Recombinant Human VEGF<sub>162</sub>
Catalog Number: 2347-VE

DESCRIPTION
Source
Mouse myeloma cell line, NS0-derived human VEGF protein
Ala27-Arg188
Accession # P15692

N-terminal Sequence Analysis
Ala27

Structure / Form
Disulfide-linked homodimer

Predicted Molecular Mass
18.8 kDa (monomer)

SPECIFICATIONS
SDS-PAGE
15-20 kDa, reducing conditions

Activity
Measured in a cell proliferation assay using HUVEC human umbilical vein endothelial cells. The ED<sub>50</sub> for this effect is 1.0-5.0 ng/mL.

Endotoxin Level
<0.10 EU per 1 μg of the protein by the LAL method.

Purity
>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation
Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE
Reconstitution
Reconstitute at 10 μg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

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.

BACKGROUND
The human VEGF-A gene contains eight exons plus a nontraditional ninth exon in the 3' UTR (1). The A gene gives rise to multiple splice variants of VEGF-A, ranging from 121 amino acids (aa) to 206 aa in length. All human splice variants contain exons 1-5 and some part of exon 8. Exons 6 and 7 are split into at least two parts, some of which may be included in any one molecule (1-5). The nontraditional 9<sup>th</sup> exon is a substitute for exon 8. Incorporation of the 9<sup>th</sup> exon results in a non-signaling form of VEGF (5). VEGF<sub>162</sub> is a VEGF isoform that induces endothelial cell proliferation in vitro and angiogenesis in vivo (5). It is synthesized as a 40-45 kDa disulfide-linked homodimer whose subunits are a product of exons 1-5, 6a, 6b and 8 (5). The three aa difference between VEGF<sub>165</sub> and VEGF<sub>162</sub> is attributable to the fact that the 165 form only utilizes exon 7 while the 162 form only utilizes exon 6. Within exon 6, exon 6a contributes 24 aa while exon 6b contributes 17 aa (aa 116-156 in the mature segment) (2). Exon 6a is not commonly found with exon 6b. In VEGF<sub>162</sub>, exon 6b appears to act as a counterpart to the activity of exon 6a. That is, the product of exon 6a normally promotes VEGF binding to basement membrane while the product of exon 6b promotes VEGF dissociation and solubilization. In this case, VEGF<sub>162</sub> is notably soluble.

References: