

Vascular Endothelial Growth Inhibitor

Human, Recombinant (rHuVEGI, VEGI-192)

Expressed in *E. coli*

Cat. No. CRP0807

Lot. No. (See product label)

PRODUCT INFORMATION

Description: Vascular endothelial growth inhibitor (VEGI; TNFSF-15) is a new member of the tumor necrosis factor family. VEGI is predominantly an endothelial cell-specific gene, and recombinant VEGI is a potent inhibitor of endothelial cell proliferation, angiogenesis and tumor growth. VEGI exerts two activities on endothelial cells: early G1 arrest of G0/G1-cells responding to growth stimuli, and programmed death of proliferating cells. These activities are highly specific to endothelial cells. VEGI is also able to regulate the expression of several important genes involved in angiogenesis. These findings are consistent with the view that VEGI functions as an autocrine cytokine to inhibit angiogenesis and stabilize the vasculature.

Amino-Acid Sequence: 192 aa(The sequence of the first five N-terminal amino acids was determined and was found to be Met-Gln-Leu-Thr-Lys.), non-glycosylated

M. W. : 21,858Da

Recombinant: Expressed in *E. coli*

Purity: >95% as determined by SDS-PAGE and RP-HPLC.

Formulation: Lyophilized after extensive dialysis against 0.5M NaCl, 50mM Tris-HCl buffer, pH 7.5.

Specific Activity: The ED50 as determined by the dose-dependant inhibition of the proliferation of HUVEC (Human Umbilical Vein Endothelial Cells) is less than 5µg/ml.

Endotoxin: Less than 0.1 ng/µg (1 IEU/µg) of rHuVEGI

Reconstitution: It is recommended to reconstitute the lyophilized VEGI-192 in sterile 18MΩ-cm H₂O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

Storage: Lyophilized VEGI-192 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution VEGI-192 should be stored at 4°C between 2-7 days and for future use below -18°C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Aliquot to avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name: [TNFSF15](#)

Gene Alias: MGC129934; MGC129935; TL1; TL1A; VEGI; VEGI192A

Gene Type: protein coding

mRNA Refseq: [NM_005118.2](#)

Protein Refseq: [NP_005109.2](#)

MIM: [604052](#)

GeneID: [9966](#)

Chromosome Location: 9q32

Summary:The protein encoded by this gene is a cytokine that belongs to the tumor necrosis factor (TNF) ligand family. This protein is abundantly expressed in endothelial cells, but is not expressed in either B or T cells. The expression of this protein is inducible by TNF and IL-1 alpha. This cytokine is a ligand for receptor TNFRSF25 and decoy receptor TNFRSF21/DR6. It can activate NF-kappaB and MAP kinases, and acts as an autocrine factor to induce apoptosis in endothelial cells. This cytokine is also found to inhibit endothelial cell proliferation, and thus may function as an angiogenesis inhibitor. An additional isoform encoded by an alternatively spliced transcript variant has been reported but the sequence of this transcript has not been determined.

Pathway: Cytokine-cytokine receptor interaction

Function: cytokine activity, tumor necrosis factor receptor binding

REFERENCES

- Hou W, et al. VEGI-192, a new isoform of TNFSF15, specifically eliminates tumor vascular endothelial cells and suppresses tumor growth. *Clinical cancer research*. 2005,11 (15):5595-5602
- Chew LJ, et al. A novel secreted splice variant of vascular endothelial cell growth inhibitor. *J.FASEB*. 2002, 16:742-744
- Tian F, et al. The Endothelial Cell-Produced Antiangiogenic Cytokine Vascular Endothelial Growth Inhibitor Induces Dendritic Cell Maturation. *J. Immunology*. 2007, 179: 3742-3751

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