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DA3516 Recombinant VEGF-E (Orf Virus)

Alternate names: VEGFE, Vascular endothelial growth factor homolog Vegf-e

Quantity: 5 µg

Background: Based on sequence similarity to VEGF-A, a gene encoding a VEGF homologue has recently been discovered in the genome of Orf virus (OV) (Lyttle et al., 1994). Different isolates of Orf virus show significant amino acid sequence similarity to VEGF-A and described as a viral virulence factor that appears to be derived from captured host genes. All eight cysteine residues of the central cysteine knot motif characteristic of members of the VEGF family are conserved among other residues in the VEGF-E proteins (Dehio et al., 1999; Wise et al., 1999). Alignment of all mammalian VEGF sequences indicated that VEGF-E is distinct from the previously described VEGFs but most closely related to VEGF-A. Like VEGF-A, VEGF-E was found to bind with high affinity to VEGF receptor-2 (KDR) resulting in receptor autophosphorylation, whilst in contrast to VEGF-A, VEGF-E can not bind to VEGF receptor-1 (Flt-1). Furthermore VEGF-E can also not bind to VEGF receptor-3 (FLT-4). Therefore VEGF-E is a potent angiogenic factor selectively binding to VEGF receptor -2/KDR.

Uniprot ID: Q9YMF3

NCBI: 10258

Species: Orf Virus

Source: E. coli

Format:
State: Lyophilized
Purity: >90% pure by SDS-PAGE and visualised by silver stain.
Buffer System: PBS, pH 7.4 without stabilizers.
Endotoxin Level: < 0.1 ng per µg of VEGF-E
Reconstitution: Restore in PBS or medium containing at least 0.1% human or bovine serum albumin to a concentration not lower than 50 µg/ml.
(VEGF-E is soluble in water and most aqueous buffers).

Description: Recombinant ov-VEGF-E (Orf virus). A DNA sequence encoding the mature variant of ovVEGF-E isolate D1701 (Dehio et al., 1999; GenBank accession No. AF106020) was expressed in E. coli as a 132 amino acid residue fusion protein with an N-terminal His-tag sequence and a thrombin cleavage site. Recombinant VEGF-E homodimer was dimerized *in vitro* and has a predicted mass of approximately 35 kDa.
Biological Activity: The ED50 for stimulation of 3H-thymidine incorporation and cell proliferation by human umbilical vein endothelial cells for VEGF-E has been determined to be in the range of 5-20 ng/ml.
Specific Activity: 2 x 10e5 units/mg
Molecular weight: 35 kDa

Add. Information: Centrifuge vial before opening!

Storage:

Store lyophilized VEGF-E at -20°C to -70°C.
Reconstituted VEGF-E should be stored in working aliquots at -20°C.
Avoid repeated freezing and thawing.
Shelf life: six months from despatch.

General Readings:

1. Dehio et al., 1999 EMBO J. 18:363-374.
2. Lyttle et al., 1994 J. Virol 68:84-92.
3. Wise et al., 1999 Proc. Natl. Acad. Sci USA 96:3071-3076.