

#9943 Store at -80°C

Vascular Endothelial Growth Factor (VEGF)



✓ 100 µl (10 µg)

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This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

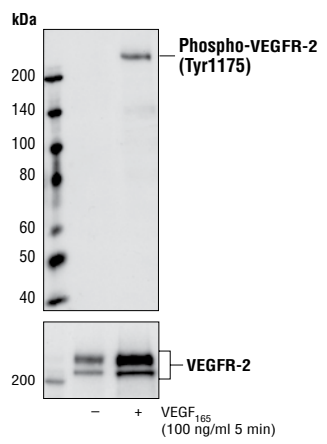
Molecular Wt.	Source	Purity
24 kDa	Human Recombinant Protein	>95%

Background: VEGF is a heparin-binding glycoprotein that is secreted as a homodimer of 45 kDa. Five human VEGF mRNA species encoding VEGF isoforms of 121, 145, 165, 189, and 206 amino acids are produced by alternative splicing of the VEGF mRNA from a single gene (1). Transcripts encoding VEGF165 and VEGF121 are detected in the majority of cells and tissues expressing the VEGF gene. VEGF121 lacks the amino acids encoded by exon 7 of the VEGF gene, which is present in VEGF165 and enables the ability of VEGF165 to bind to heparin and heparan sulfate. Heparin-binding VEGF165 is the best characterized VEGF species. The binding of VEGF165 to the VEGF receptors of vascular endothelial cells is modulated by the addition of exogenous heparin or heparan sulfate and inhibited after digestion of endothelial cells with heparinase (2). Neuropilin-1 is also a VEGF165 isoform specific receptor. It has been reported that neuropilin-1 can enhance the binding of VEGF165 to the Flk-1/KDR receptor (3). VEGF165 expression is regulated by various stimuli including growth factors, cytokines, gonadotropins, nitric oxide, hypoxia, hypoglycemia and oncogenic mutations.

Description: The human VEGF₁₆₅ coding cDNA was subcloned into an expression vector and expressed in yeast. The recombinant human VEGF₁₆₅ homodimer was purified and stored in PBS buffer (pH7.4) containing 0.1% BSA.

Concentration: 100 µg/ml, 5x10⁵ Iµ/mg

Directions for Use: CST recommends using 50-100 ng/ml of VEGF for stimulation of VEGF signaling.



Western blot analysis of extracts from HUVE cells, untreated or VEGF₁₆₅ stimulated (100 ng/ml for 5 min), using Phospho-VEGF Receptor 2 (Tyr1175) (19A10) Rabbit mAb #2478 (upper) or VEGF Receptor 2 (55B11) Rabbit mAb #2479 (lower).

Background References:

- (1) Houck, K.A. et al. (1991) *Mol Endocrinol* 5, 1806-1814.
- (2) Gitay-Goren, H. et al. (1992) *J. Biol. Chem.* 267, 6093-6098.
- (3) Soker, S. et al. (1998) *Cell* 92, 735-745.
- (4) Loureiro, R.M. and D'Amore, P.A. (2005) *Cytokine Growth Factor Rev.* 16, 104-113.

Storage: Vascular Endothelial Growth Factor (VEGF) is supplied as a solution. It should be stored at -80°C. Aliquot the reagent upon receipt and avoid repeat freeze-thaw cycles.

Companion Products:

- Phospho-VEGF Receptor 2 (Tyr951) Antibody #2471
- Phospho-VEGF Receptor 2 (Tyr996) Antibody #2474
- Phospho-VEGF Receptor 2 (Tyr951) (7H11) Mouse mAb #2476
- Phospho-VEGF Receptor 2 (Tyr1212) (11A3) Rabbit mAb #2477
- Phospho-VEGF Receptor 2 (Tyr1175) (19A10) Rabbit mAb #2478
- VEGF Receptor 2 (55B11) Rabbit mAb #2479
- Phospho-VEGF Receptor 2 (Tyr951) (15D2) Rabbit mAb #4991