

Revision 2

 #48143
 Store at -20C

Human VEGF-165 Recombinant Protein

10 µg



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
www.cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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MW (kDa):
19.3

UniProt ID:
P15692

Entrez-Gene Id:
7422

Background

VEGF-165 is the most abundant splice variant of VEGF-A (1,2). VEGF-165 is produced by a number of cells including endothelial cells, macrophages, and T cells. VEGF-165 is involved in angiogenesis, vascular endothelial cell survival, growth, migration, and vascular permeability (1). *VEGF* gene expression is induced by hypoxia, inflammatory cytokines, and oncogenes (1,2). VEGF-165 binds to heparan sulfate and is retained on the cell surface and in the extracellular matrix (2,3). VEGF-165 binds to the receptor tyrosine kinases, VEGFR1 and VEGFR2 (1). VEGF-165 is the only splice variant that binds to co-receptors NRP-1 and NRP-2 (1-3) that function to enhance VEGFR2 signaling (1). Binding of VEGF-165 to VEGFR1 and VEGFR2 leads to activation of PI3K/Akt, p38 MAPK, FAK and paxillin (1). VEGF plays a key role in tumor angiogenesis in many cancers (2).

Endotoxin

Endotoxin levels are less than or equal to 1 EU / 1 µg hVEGF-165.

Purity

A greater than or equal to 95% purity was determined by SDS-PAGE.

Source / Purification

Recombinant human VEGF-165 was expressed in *E. coli* and is supplied in a lyophilized form.

Bioactivity

The bioactivity of recombinant hVEGF-165 was determined in a HUVEC cell proliferation assay. The ED₅₀ of each lot is less than or equal to 10 ng/ml.

Storage

Human VEGF-165 Recombinant Protein is supplied as lyophilized material that is very stable at -20°C. It is recommended to reconstitute with sterile water at a concentration of 0.1 mg/ml which can be further diluted in aqueous solutions as needed. Addition of a carrier protein (0.1% HSA or BSA) is recommended for long-term storage.

Background References

1. Takahashi, H. and Shibuya, M. (2005) *Clin Sci (Lond)* 109, 227-41.
2. Neufeld, G. et al. (1999) *FASEB J* 13, 9-22.
3. Robinson, C.J. and Stringer, S.E. (2001) *J Cell Sci* 114, 853-65.

APPLICATIONS KEY

CROSS-REACTIVITY KEY H: human M: mouse R: rat Hm: hamster Mk: monkey
 Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish
 B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse
 Rb: rabbit All: all species expected

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