

Cytokines

Human Recombinant VEGF-165

Vascular endothelial growth factor

Catalog # 78073
78073.1

50 µg
100 µg



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Product Description

Vascular endothelial growth factor (VEGF-165) is a heparin-binding homodimeric glycoprotein involved in embryonic vasculogenesis and angiogenesis. VEGF binds to VEGFR-1 (R1) and VEGFR-2 (R2), and activates Raf/MEK/ERK and PI3K/AKT pathways (Ferrara et al.). It plays an important role in neurogenesis both in vitro and in vivo (Storkebaum et al.). It has neurotrophic effects on neurons of the central nervous system and promotes growth and survival of dopaminergic neurons and astrocytes. VEGF also promotes growth and survival of vascular endothelial cells, monocyte chemotaxis, and colony formation by granulocyte-macrophage progenitor cells (Ferrara et al.).

Product Information

Alternative Names: MGC70609, MVCD-1, Vascular endothelial growth factor 2, Vascular endothelial growth factor A, Vascular permeability factor, VEGF-A, VPF

Accession Number: P15692

Amino Acid Sequence: APMAEGGGQN HHEVVKFMDV YQRSYCHPIE TLVDIFQEYP DEIEYIFKPS CVPLMRCGGC CNDEGLECVP TEESNITMQI MRIKPHQGQH IGEMSFLQHN KCECRPKKDR ARQENPCGPC SERRKHLFVQ DPQTCKCSCCK NTDSRCKARQ LELNERTCRC DKPRR

Predicted Molecular Mass: 38.2 kDa

Species: Human

Cross Reactivity: Mouse, Rat

Formulation: Lyophilized after dialysis against HEPES containing sodium chloride, pH 7.0.

Source: P. pastoris

Specifications

Activity: The specific activity is $\geq 2 \times 10^5$ units/mg ($EC_{50} \leq 5$ ng/mL) as determined by a cell proliferation assay using HUVECs.

Purity: $\geq 95\%$

Endotoxin Level: Measured by kinetic limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

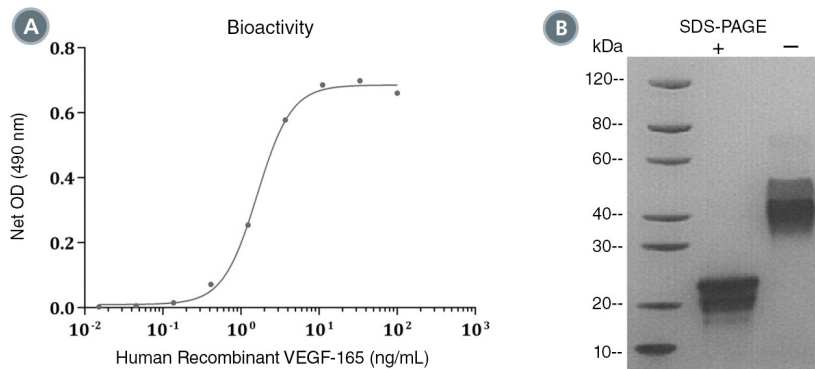
Preparation and Storage

Storage: Store at -80°C.

Stability: Stable as supplied for 12 months from date of receipt.

Reconstitution: Centrifuge vial before opening. Resuspend the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 6 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant VEGF-165 was tested by its ability to promote the proliferation of HUVECs. Cell proliferation was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC₅₀ in the above example is 1.7 ng/mL.

(B) 4 µg of Human Recombinant VEGF-165 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant VEGF-165 has a predicted molecular mass of 38.2 kDa by non-reducing SDS-PAGE.

Related Products

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References

Ferrara N et al. (2003) The biology of VEGF and its receptors. *Nat Med* 9(6): 669–76.

Storkebaum E et al. (2004) VEGF: once regarded as a specific angiogenic factor, now implicated in neuroprotection. *Bioessays* 26(9): 943–54.

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