Cytokines

Human Recombinant VEGF-165

Vascular endothelial growth factor

Catalog #	78073	50 µg
	78073.1	100 µg
	78073.2	1000 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 DPQTCKCSCK NTDSRCKARQ LELNERTCRC DKPRR
Predicted Molecular Mass:	19.1 kDa monomer; 38.2 kDa dimer
Species:	Human
Cross Reactivity:	Mouse, Rat
Formulation:	Lyophilized after dialysis against HEPES containing sodium chloride, pH 7.0.
Source:	P. pastoris

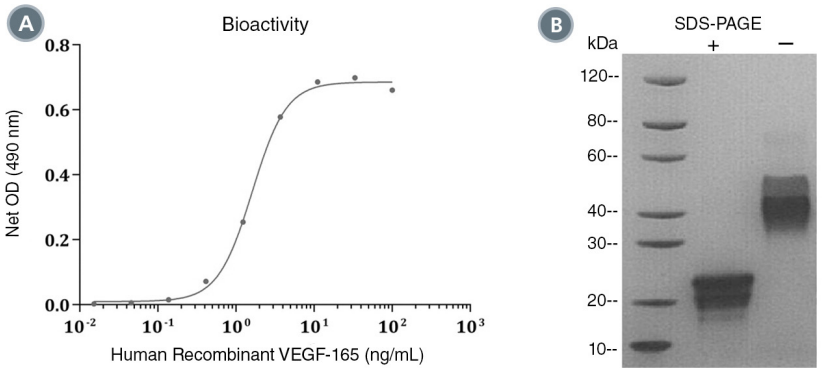
Specifications

Activity:	The specific activity is ≥ 2 x 10^5 units/mg (EC50 ≤ 5 ng/mL) as determined by a cell proliferation assay using HUVECs.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic limulus amebocyte 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.
Preparation:	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 is a homodimer of 19.1 kDa subunits with a predicted total molecular mass of 38.2 kDa.

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.