

Murine VEGF₁₆₄ (glycosylated)

Synonyms: vascular endothelial growth factor A, Vegfa, Vpf, Vegf, Vegf164

PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING

Size	Order #	Lot #	Expiry Date
5 µg	2006.962.005		
20 µg	2006.962.020		

Please enquire for bulk quantities and other vial sizes

Description

Murine Vascular Endothelial Growth Factor164 (VEGF164), a 24 kDa protein consisting of 164 amino acid residues, is produced as a homodimer. VEGF164 is a polypeptide growth factor and a member of the platelet-derived growth factor family. It is a specific mitogen for vascular endothelial cells and a strong angiogenic factor in vivo. Two high-affinity tyrosine kinase receptors for VEGF164 have been identified, VEGFR-1 (FLT-1), and VEGFR-2 (Flk-1). Consistent with the endothelial cell-specific action of VEGF164, expression of both receptor genes has been found predominantly but not exclusively on endothelial cells. Expression of VEGFR-1 was also found on human monocytes, neutrophils (PMNs), bovine brain pericytes and villous and extravillous trophoblasts. In addition to its action as a mitogen it is a potent vascular permeability factor (VPF) in vivo and is also a chemo attractant for monocytes and endothelial cells. At least three different proteins are generated by differential splicing of the mouse VEGF gene: VEGF120, VEGF164 and VEGF188. The most abundant form is VEGF164. Whereas VEGF120 and VEGF164 are secreted proteins, VEGF188 is strongly cell-associated. In addition, the isoforms VEGF164 and VEGF188 bind to heparin with high affinity. VEGF is apparently a homodimer, but preparations of VEGF show some heterogeneity on SDS gels depending of the secretion of different forms and the varying degrees of glycosylation. All dimeric forms possess similar biological activities. There is evidence that heterodimeric molecules between the different isoforms exists and that different cells and tissues express different VEGF isoforms. A related protein of VEGF is placenta growth factor (PlGF) with about 53% homology and VEGF-B with similar biological activities.

- **Source** Insect cells
- **Purity** ≥ 95 % (SDS-PAGE, silver stained)

Biological Activity

The ED₅₀ for stimulation of cell proliferation by human umbilical vein endothelial cells for VEGF164 has been determined to be in the range of 1-5 ng/ml.

Reconstitution

The lyophilized VEGF164 should be reconstituted in 50 mM acetic acid to a concentration not lower than 50 µg/ml. For long term storage we recommend to add at least 0.1% human or bovine serum albumin.

Amino Acid Sequence

APTTEGEQKS HEVIKFMVDV QRSYCRPIET LVDIFQEYPD EIEYIFKPSC VPLMRCAGCC NDEALECVPT
 SESNITMQIM RIKPHQSQHI GEMSFLOHSR CECRPKKDRT KPENHCEPCS ERRKHLFVQD PQTCKCCKN
 TDSRCKARQL ELNERTCRCD KPRR

Usage: For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

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