

Datasheet for ABIN1589661
VEGFA Protein (Homodimer)



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Overview

Quantity:	5 µg
Target:	VEGFA
Protein Characteristics:	Homodimer
Origin:	Mouse
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active

Product Details

Purpose:	VEGF164
Sequence:	APTTEGEQKS HEVIKFMVDVY QRSYCRPIET LVDIFQEYPD EIEYIFKPSC VPLMRCAGCC NDEALECVPT SESNITMQIM RIKPHQSQHI GEMSFLQHSR CECRPKKDRT KPENHCEPCS ERRKHLFVQD PQTCKCCKN TDSRCKARQL ELNERTCRCD KPRR
Specificity:	Chromosomal location:17C, 17 24.2cM
Characteristics:	Length (aa):164
Purity:	> 95 % by SDS-PAGE
Endotoxin Level:	< 0.1 ng per µg of mouse VEGF165

Target Details

Target:	VEGFA
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Target Details

Alternative Name: [VEGF164 \(VEGFA Products\)](#)

Background: Mouse Vascular Endothelial Growth Factor164 (VEGF164), a 19,2 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 four different proteins are generated by differential splicing of the mouse VEGF gene: VEGF120, VEGF144, VEGF164 and VEGF188. The most abundant form is VEGF164. Whereas VEGF120, VEGF144, 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.

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

Molecular Weight: 38,4 kDa

Gene ID: 22339

NCBI Accession: [NM_001025250, NP_001020421](#)

UniProt: [Q00731](#)

Pathways: [RTK Signaling](#), [Glycosaminoglycan Metabolic Process](#), [Regulation of Cell Size](#), [Tube Formation](#), [Signaling Events mediated by VEGFR1 and VEGFR2](#), [Platelet-derived growth Factor Receptor Signaling](#), [VEGFR1 Specific Signals](#), [VEGF Signaling](#)

Application Details

Application Notes: 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.

Application Details

Comment: Cytokines & Growth Factors

Restrictions: For Research Use only

Handling

Format: Lyophilized

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.

Buffer: 50 mM acetic acid

Storage: -20 °C, -80 °C

Storage Comment: Lyophilized samples are stable for greater than six months at -20°C to -70°C. Reconstituted VEGF164 should be stored in working aliquots at -20°C

Expiry Date: 6 months
