

## Rat VEGF<sub>164/165</sub>

Synonyms: vascular endothelial growth factor A, Vegfa, Vegf, VEGF164

*PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING*

Size	Order #	Lot #	Expiry Date
2 µg	2005.970.002		
10 µg	2005.970.010		
20 µg	2005.970.020		
50 µg	2005.970.050		
100 µg	2005.970.100		
1 mg	2005.970.199		

Please enquire for bulk quantities and other vial sizes

### Description

Rat Vascular Endothelial Growth Factor164 (VEGF164), a 19.23 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 VEGF120, 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. All dimeric forms possess similar biological activities. A related protein of VEGF is placenta growth factor (PlGF) with about 53% homology and VEGF-B with similar biological activities. The full ORF of native rat VEGF164 (Ala27-Arg190) was cloned from total RNA of rat sinusoidal endothelial cells using standard protocols

- **Source** *E. Coli*
- **Purity** ≥ 95 % (SDS-PAGE, silver stained)

### Biological Activity

Determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC) using a concentration range of 2-10 ng/ml.

### Reconstitution

The lyophilized VEGF164 should be reconstituted in ddH<sub>2</sub>O to a concentration not lower than 50µg/ml.

### Amino Acid Sequence

APTTEGEQKS HEVIKFMVDVY QRSYCRPIET LVDIFQEYPD EIEYIFKPSC VPLMRCAGCC NDEALECVPT  
 SESNITMQIM RIKPHQSQHI GEMSFLLQHSR CECRPKKDRT KPNHCEPCS 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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