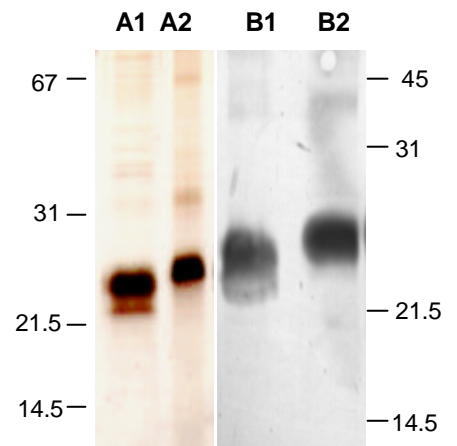
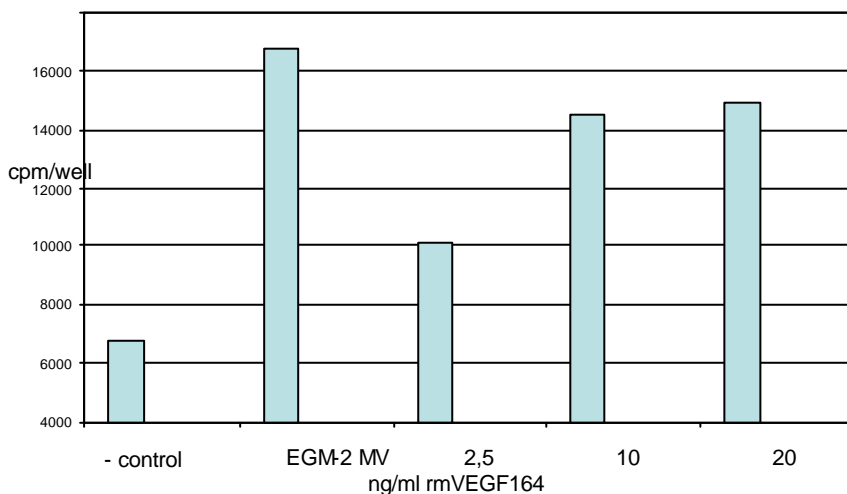


**Product of the month: 35% special discount!**

**Recombinant Murine VEGF<sub>164</sub>**

**Description:** Mouse Vascular Endothelial Growth Factor<sub>164</sub> (VEGF<sub>164</sub>), a 24 kDa protein consisting of 164 amino acid residues, is produced as a homodimer. VEGF<sub>164</sub> 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 VEGF<sub>164</sub> have been identified, VEGFR-1 (FLT-1), and VEGFR-2 (Flk-1). Consistent with the endothelial cell-specific action of VEGF<sub>164</sub>, 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 chemoattractant for monocytes and endothelial cells. At least three different proteins are generated by differential splicing of the mouse VEGF gene: VEGF<sub>120</sub>, VEGF<sub>164</sub> and VEGF<sub>188</sub>. The most abundant form is VEGF<sub>164</sub>. Whereas VEGF<sub>120</sub> and VEGF<sub>164</sub> are secreted proteins, VEGF<sub>188</sub> is strongly cell-associated. In addition, the isoforms VEGF<sub>164</sub> and VEGF<sub>188</sub> 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 exist 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 related biological activities.



**Bioassay:** VEGF activity was measured with human endothelial cells (HDMEC) grown in 24-well plates. After cultivation in minimal media cells were incubated over 20 h with growth factors and 6 h with radioactive <sup>3</sup>H-Thymidine.

Half maximum activity was observed at 2.5 ng/ml mVEGF<sub>164</sub>.  
 - control: minimal media; EGM-2 MV: complete medium

**A)** Analysis of purified human VEGF<sub>165</sub> (A1) and mouse VEGF<sub>164</sub> (A2) after affinity purification and silver staining

**B)** Western blot detection of purified human VEGF<sub>165</sub> (B1) and mouse VEGF<sub>164</sub> (B2) using a rabbit polyclonal antibody cross-reacting with human and murine VEGF-A isoforms.