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Product datasheet for AR26014PU-N

VEGF144 (VEGF144) Mouse Protein

Product data:

Product Type:	Recombinant Proteins
Description:	VEGF144 (VEGF144) mouse recombinant protein, 5 µg
Species:	Mouse
Expression Host:	E. coli
Predicted MW:	33.8 kDa
Purity:	>95% by SDS-PAGE and silver stain
Buffer:	Presentation State: Purified State: Lyophilized protein Buffer System: 50 mM acetic acid, without stabilizer
Bioactivity:	Biological: 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.
Endotoxin:	< 0.1 ng/µg of VEGF144
Reconstitution Method:	The lyophilized VEGF144 is soluble in water and most aqueous buffers. The lyophilized VEGF144 should be reconstituted in 50mM acetic acid to a concentration not lower than 50µg/ml.
Preparation:	Lyophilized protein
Protein Description:	Recombinant Murine Vascular Endothelial Growth Factor144
Note:	Range: 1.0-10.0 ng/ml Protein RefSeq: NP 001020421 mRNA RefSeq: NM 001025250
Storage:	Store (following reconstitution in aliquots) at -20 °C or below. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Synonyms:	VEGFA, VEGF, VPF, Vascular endothelial growth factor A, Vascular permeability factor

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Summary:

Mouse Vascular Endothelial Growth Factor144 (VEGF144), a 16,9 kDa protein consisting of 144 amino acid residues, is produced as a homodimer. VEGF144 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 VEGF144 have been identified, VEGFR-1 (FLT-1), and VEGFR-2 (Flk-1). Consistent with the endothelial cell-specific action of VEGF144, 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.