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Product datasheet for TP780001

VEGFA (NM_001171626) Human Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Recombinant protein of human Vascular endothelial growth factor A (VEGF) produced in Pichia Pastoris.
Species:	Human
Expression Host:	Pichia
Expression cDNA Clone or AA Sequence:	A DNA sequence from TrueORF clone, RC229662. Encoding the region (Ala27-Arg191) of human VEGFA
Tag:	Tag Free
Predicted MW:	19.2 kDa
Concentration:	>0.1 μg/μL as determined by microplate BCA method
Purity:	>95% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	Lyophilized from a sterile solution containing 20 mM PB, pH 7.2
Bioactivity:	Measured in a cell proliferation assay using HUVEC Cells. The ED50 for this effect is typically 1.1 - 1.6 ng/ml.
Endotoxin:	< 0.1 EU per 1 μg of the protein by the LAL
Note:	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
Storage:	Store at -80°C.
Stability:	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
RefSeq:	NP_001165097
Locus ID:	7422
UniProt ID:	A0A0Y0IMM4
RefSeq Size:	3665
Cytogenetics:	6p21.1
RefSeq ORF:	1236
Synonyms:	MVCD1; VEGF; VPF

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Summary: This gene is a member of the PDGF/VEGF growth factor family. It encodes a heparin-binding protein, which exists as a disulfide-linked homodimer. This growth factor induces proliferation and migration of vascular endothelial cells, and is essential for both physiological and pathological angiogenesis. Disruption of this gene in mice resulted in abnormal embryonic blood vessel formation. This gene is upregulated in many known tumors and its expression is correlated with tumor stage and progression. Elevated levels of this protein are found in patients with POEMS syndrome, also known as Crow-Fukase syndrome. Allelic variants of this gene have been associated with microvascular complications of diabetes 1 (MVCD1) and atherosclerosis. Alternatively spliced transcript variants encoding different isoforms have been described. There is also evidence for alternative translation initiation from upstream non-AUG (CUG) codons resulting in additional isoforms. A recent study showed that a C-terminally extended isoform is produced by use of an alternative in-frame translation termination codon via a stop codon readthrough mechanism, and that this isoform is antiangiogenic. Expression of some isoforms derived from the AUG start codon is regulated by a small upstream open reading frame, which is located within an internal ribosome entry site. The levels of VEGF are increased during infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), thus promoting inflammation by facilitating recruitment of inflammatory cells, and by increasing the level of angiopoietin II (Ang II), one of two products of the SARS-CoV-2 binding target, angiotensin-converting enzyme 2 (ACE2). In turn, Ang II facilitates the elevation of VEGF, thus forming a vicious cycle in the release of inflammatory cytokines. [provided by RefSeq, Jun 2020]

Protein Families: Druggable Genome, Secreted Protein

Protein Pathways: Bladder cancer, Cytokine-cytokine receptor interaction, Focal adhesion, mTOR signaling pathway, Pancreatic cancer, Pathways in cancer, Renal cell carcinoma, VEGF signaling pathway

Product images: