

## Product datasheet for RC217312

### VEGFA (NM\_001033756) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	VEGFA (NM_001033756) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	VEGFA
Synonyms:	MVCD1; VEGF; VPF
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC217312 representing NM_001033756 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCTGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCCGCATCGCC

CTGACGGACAGACAGACAGACACCGCCCCAGCCCCAGCTACCACCTCCTCCCCGGCCGGCGGGACAG  
 TGGACGCGGGCGGCGAGCCGCGGGCAGGGCCGGAGCCCGCGCCGGAGGCGGGGTGGAGGGGTGCGGGC  
 TCGCGCGTCTGCACTGAACTTTTCGTCAACTTCTGGGCTGTTCTCGCTTCGGAGGAGCCGTGGTCCGC  
 GCGGGGAAGCCGAGCCGAGCGGAGCCGCGAGAAGTGCTAGCTCGGGCCGGAGGAGCCGAGCCGAGG  
 AGGGGAGGAGGAAGAAGAGAAGGAAGAGAGAGGGGGCCGAGTGGCGACTCGGCGCTCGAAGCCGGG  
 CTATGAGCGGTGAGGCGGCGGTGTGCGCAGACAGTGTCCAGCCGCGCGCTCCCCAGGCCCTGGCC  
 CGGGCCTCGGGCCGGGAGGAAGAGTAGCTCGCCGAGGCGCCGAGGAGAGCGGGCCGCCACAGCCGA  
 GCCGAGAGGGAGCGCGAGCCGCGCCGGCCCGGTGCGGCCTCCGAAACCATGAACTTTCTGCTGTCTTG  
 GGTGCAATTGGAGCCTTGCTTGTCTCTACCTCCACCATGCCAAGTGGTCCCAGGCTGCACCATGGCA  
 GAAGGAGGAGGGCAGAATCATCAGAAGTGGTGAAGTTCATGGATGTCTATCAGCGCAGCTACTGCCATC  
 CAATCGAGACCTGGTGGACATCTCCAGGAGTACCCTGATGAGATCGAGTACATCTTCAAGCCATCCTG  
 TGTGCCCTGATGCGATGCGGGGCTGTGCAATGACGAGGGCCTGGAGTGTGTGCCACTGAGGAGTCC  
 AACATCACCATGCAGATTATGCGGATCAAACCTCACCAGGCCAGCACATAGGAGAGATGAGCTTCCTAC  
 AGCACAACAAATGTGAATGCAGACCAAGAAAGATAGAGCAAGACAAGAAATCCCTGTGGGCCTTGCTC  
 AGAGCGGAGAAAGCATTTGTTTGTACAAGATCCGACAGCGTGAATGTTCTGCAAAAACAGACTCG  
 CGTTGCAAGGCGAGGAGCTTGAAGTAAACGACGTACTTGCAGATCTCTACCAGGAAAGAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA


[View online »](#)

**Protein Sequence:** >RC217312 representing NM\_001033756  
 Red=Cloning site Green=Tags(s)

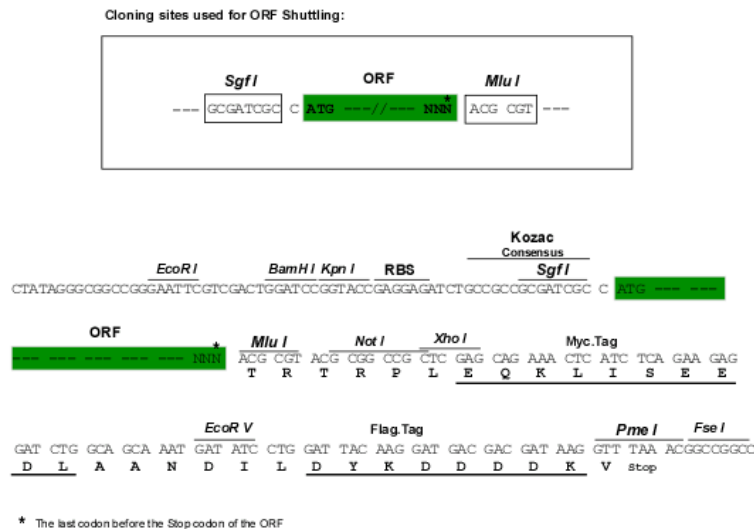
LTDRQTDAPSPSYHLLPGRRTVDAAASRGQGPEPAPGGGVEGVGARGVALKLFVQLLGCSRFGGAVVR  
 AGEAEPSGAARSASSGREEPQEEGEEEEKEEERGQPWRLGARKPGSWTGEAAVCADSAPAARAPQALA  
 RASGRGGRVARRGAEESGPPHSPRRGSASRAGPGRASETMNLLSWVHWSLALLLYLHHAKWSQAAPMA  
 EGGGQNHHEVVKFMDVYQRSYCHPIETLVDIFQEYPDEIEYIFKPSCVPLMRCGGCCNDEGLECVPTES  
 NITMQIMRIKPHQGHIGMSFLQHKNKCECRPKKDRARQENPCGPCSERRKHLFVQDPQTKCCKNTDS  
 RCKARQLELNERTCRSLTRKD

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mg3009\\_c07.zip](https://cdn.origene.com/chromatograms/mg3009_c07.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001033756

**ORF Size:** 1113 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

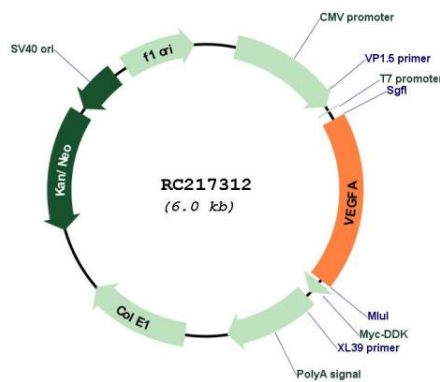
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.</li> </ol>
<b>RefSeq:</b>	<u><a href="#">NM_001033756.3</a></u>
<b>RefSeq Size:</b>	3476 bp
<b>RefSeq ORF:</b>	1116 bp
<b>Locus ID:</b>	7422
<b>UniProt ID:</b>	<u><a href="#">P15692</a></u>
<b>Cytogenetics:</b>	6p21.1
<b>Protein Families:</b>	Druggable Genome, Secreted Protein
<b>Protein Pathways:</b>	Bladder cancer, Cytokine-cytokine receptor interaction, Focal adhesion, mTOR signaling pathway, Pancreatic cancer, Pathways in cancer, Renal cell carcinoma, VEGF signaling pathway
<b>MW:</b>	40.5 kDa

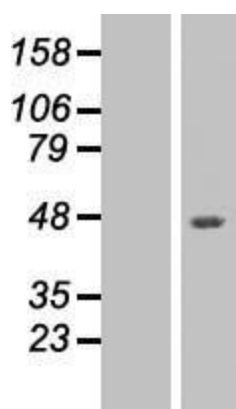
## Gene Summary:

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]

## Product images:



Circular map for RC217312



Western blot validation of overexpression lysate (Cat# [LY422419]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC217312 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).