

## Product datasheet for **SC328344**

### VEGFA (NM\_001171624) Human Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** VEGFA (NM\_001171624) Human Untagged Clone  
**Tag:** Tag Free  
**Symbol:** VEGFA  
**Synonyms:** MVCD1; VEGF; VPF  
**Mammalian Cell Selection:** None  
**Vector:** pCMV6-XL4  
**E. coli Selection:** Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene sequence for NM\_001171624 edited  
 GCAGCCGGGTAGCTCGGAGGTCGTGGCGCTGGGGGCTAGCACCAGCGCTCTGTCGGGAGG  
 CGCAGCGGTTAGGTGGACCGGTGACCGGACTCACCGGCCAGGGCGCTCGGTGCTGGAATT  
 TGATATTCATTGATCCGGGTTTTATCCCTCTTCTTTTTCTTAAACATTTTTTTTTAAAA  
 CTGTATTGTTTTCTGTTTTAATTTATTTTTGCTTGCCATTCCCCACTTGAATCGGGCCGA  
 CGGCTTGGGGAGATTGCTCTACTTCCCCAAATCACTGTGGATTTTGGAAACCAGCAGAAA  
 GAGGAAAGAGGTAGCAAGAGCTCCAGAGAGAAGTCGAGGAAGAGAGACGGGGTCAGAG  
 AGAGCGCGCGGGCGTGCAGCAGCGAAAGGGACAGGGGCAAAGTGAGTGACCTGCTTTTTG  
 GGGGTGACCGCCGAGCGCGGCTGAGCCCTCCCCCTTGGGATCCCGCAGCTGACCAGTC  
 GCGCTGACGGACAGACAGACAGACACCGCCCCAGCCCCAGCTACCACCTCCTCCCCGGC  
 CGGCGGGGACAGTGACGCGGGCGGAGCCGCGGGCAGGGGCCGAGCCCGCGCCCGGA  
 GCGGGGTGGAGGGGTGCGGGCTCGCGCGCTCGCACTGAAACTTTTCGTCCAACCTCTG  
 GGCTGTTCTCGTTCCGAGGAGCCGTGGTCCGCGCGGGGGAAGCCGAGCCGAGCGGAGCC  
 GCGAGAAGTGCTAGCTCGGGCCGGGAGGAGCCGAGCCGGAGGAGGGGGAGGAGGAAGAA  
 GAGAAGGAAGAGGAGAGGGGGCCGAGTGGCGACTCGGCGCTCGGAAGCCGGGCTCATGG  
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 GCCCGGCCCTCGGGCCGGGAGGAAGAGTAGCTCGCCGAGGCGCCGAGGAGAGCGGGCCG  
 CCCCACAGCCGAGCCGAGAGGGAGCGCGAGCCGCGCCGGCCCGGTCGGGCCTCCGAA  
 ACCATGAACCTTTCTGCTGTCTTGGGTGCATTGGAGCCTTGCTTGTGCTCTACCTCCAC  
 CATGCCAAGTGGTCCCAGGCTGCACCCATGGCAGAAGGAGGAGGGCAGAATCATCACGAA  
 GTGGTGAAGTTTATGGATGTCTATCAGCGCAGCTACTGCCATCCAATCGAGACCTGGTG  
 GACATCTTCCAGGAGTACCCTGATGAGATCGAGTACATCTTCAAGCCATCCTGTGTGCC  
 CTGATGCGATGCGGGGGCTGCTGCAATGACGAGGGCCTGGAGTGTGTGCCACTGAGGAG  
 TCCAACATCACCATGCAGATTATGCGGATCAAACCTCACCAGGCCAGCACATAGGAGAG  
 ATGAGCTTCTACAGCACAACAAATGTGAATGCAGACAAAGAAAGATAGAGCAAGACAA  
 GAAAAAAATCAGTTCGAGGAAAGGAAAGGGGCAAAAACGAAAGCGCAAGAAATCCCGG  
 TATAAGTCTGGAGCGTTCCTGTGGCCTTGCTCAGAGCGGAGAAAGCATTTGTTTGTA



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CAAGATCCGCAGACGTGTAATGTTCTGCAAAAACACAGACTCGCGTTGCAAGGCGAGG
CAGCTTGAGTTAAACGAACGTACTTGCAGATGTGACAAGCCGAGGCGGTGAGCCGGGCGAG
GAGGAAGGAGCCTCCCTCAGGGTTTCGGGAACCAGATCTCTACCAGGAAAGACTGATAC
AGAACGATCGATACAGAAACCACGCTGCCGCCACCACACCATCACCATCGACAGAACAGT
CCTTAATCCAGAAACCTGAAATGAAGGAAGAGGAGACTCTGCGCAGAGCACTTTGGGTCC
GGAGGGCGAGACTCCGGCGGAAGCATTCCCGGGCGGGTGACCCAGCACGGTCCCTCTTGG
AATTGGATTCGCCATTTTATTTTTCTTGTGCTAAATCACCGAGCCCGGAAGATTAGAGA
GTTTTATTTCTGGGATTCCTGTAGACACACCCACCCACATACATTTATATATATAT
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AGAGACTCTGGCATGATCTTTTTTTGTCCCACTTGGTGGGGCCAGGGTCTCTCCCTG
CCCAGGAATGTGCAAGGCCAGGGCATGGGGCAAATATGACCCAGTTTTGGGAACACCGA
CAAACCCAGCCCTGGCGCTGAGCCTCTCTACCCAGGTCAGACGGACAGAAAGACAGATC
ACAGGTACAGGGATGAGGACACCGGCTCTGACCAGGAGTTTGGGGAGCTTCAGGACATTG
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TGACAGCTCCCCTTCTGGGACTCGCCCTCATCTCTTCTGCTCCCCTTCTGGGGTGC
AGCCTAAAAGGACCTATGCTCTCACACCATTGAAACCACTAGTTCTGTCCCCCAGGAGA
CCTGGTTGTGTGTGTGAGTGGTTGACCTTCTCCATCCCCTGGTCCTTCCCTTCCCT
CCCAGGCACAGAGAGACAGGGCAGGATCCACGTGCCATTGTGGAGGCAGAGAAAAGAG
AAAGTGTTTTATATACGGTACTTATTTAATATCCCTTTTTAATTAGAAAATTAACAGTT
AATTTAATTAAGAGTAGGGTTTTTTTTAGTATTCTTGGTTAATTTAATTTCAACTA
TTTATGAGATGTATCTTTTGTCTCTCTTGTCTCTTATTTGTACCGGTTTTTGTATATA
AAATTCATGTTTCCAATCTCTCTCCCTGATCGGTGACAGTCACTAGCTTATCTTGAAC
AGATATTTAATTTGCTAACACTCAGCTCTGCCCTCCCCGATCCCCTGGCTCCCCAGCAC
ACATTCCTTTGAAATAAGGTTTCAATATACATCTACATACTATATATATTTGGCAACT
TGTATTTGTGTATATATATATATATATGTTTATGTATATATGTGATTCTGATAAATA
GACATTGCTATTCTGTTTTTATATGTAIAAAAAAAAAAAAAAAAAAAAAA

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**Restriction Sites:**

Please inquire

**ACCN:**

NM\_001171624

**Insert Size:**

3300 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](#)

**OTI Annotation:**

The ORF of this clone has been fully sequenced and found to be a perfect match to NM\_001171624.1.

<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_001171624.1</a></u> , <u><a href="#">NP_001165095.1</a></u>
<b>RefSeq Size:</b>	3626 bp
<b>RefSeq ORF:</b>	648 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

**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 angiotensin 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]

Transcript Variant: This variant (2) uses an alternate in-frame splice site in the 3' coding region, compared to variant 1. This variant can initiate translation from four non-AUG (CUG) sites, and also from a downstream, in-frame AUG. The isoform (j, also referred to as VEGF189) represented in this RefSeq is derived from the AUG start codon, and is shorter than isoform a. CCDS Note: This CCDS, which is supported by the mRNA M27281.1, represents a VEGFA isoform derived from an AUG start codon. Alternative translation initiation from multiple upstream non-AUG(CUG) codons is also possible for this gene, as indicated in PMIDs:11352659, 11563986 and 11731620. The longest isoform encoded by this variant, which is derived from the 5'-most CUG start codon, is represented by CCDS 4907.2.