

Product datasheet for **RG236189**

VEGFA (NM_001287044) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: VEGFA (NM_001287044) Human Tagged ORF Clone
Tag: TurboGFP
Symbol: VEGFA
Synonyms: MVCD1; VEGF; VPF
Mammalian Cell Selection: Neomycin
Vector: pCMV6-AC-GFP (PS100010)
E. coli Selection: Ampicillin (100 ug/mL)
ORF Nucleotide Sequence: >RG236189 representing NM_001287044.
Blue=ORF Red=Cloning site Green=Tag(s)

```
GCTCGTTTAGTGAACCGTCAGAATTTGTAAACGACTACTATAGGGCGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGGCAGAAGGAGGAGGGCAGAATCATCACGAAGTGGTGAAGTTCATGGATGTCTATCAGCGCAGCTAC
TGCCATCCAATCGAGACCCTGGTGGACATCTTCCAGGAGTACCCTGATGAGATCGAGTACATCTTCAAG
CCATCCTGTGTGCCCTGATGCGATGCGGGGGCTGCTGCAATGACGAGGGCCTGGAGTGTGTGCCACT
GAGGAGTCCAACATCACCATGCAGATTATGCGGATCAAACCTACCAAGGCCAGCACATAGGAGAGATG
AGCTTCTACAGCACAACAAATGTGAATGCAGACCAAAGAAAGATAGAGCAAGACAAGAAAATCCCTGT
GGCCTTGCTCAGAGCGGAGAAAGCATTGTTTGTACAAGATCCGCAGACGTGTAATGTTCTGCAAA
AACACAGACTCGCGTTGCAAGGGCAGGCAGCTTGAATTAACGAACGTACTTGCAGATGTGACAAGCCG
AGGCGG
ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAAAC
```

Protein Sequence: >Peptide sequence encoded by RG236189
Blue=ORF Red=Cloning site Green=Tag(s)

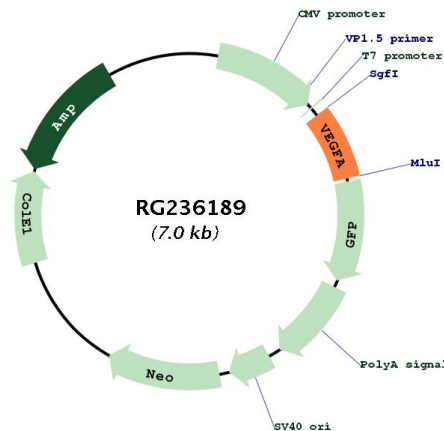
```
MAEGGGQNHHEVVKFMDVYQRSYCHPIETLVDFIQEYYPDEIEYIFKPSCVPLMRCGGCCNDEGLECVPT
EESNITMQIMRIKPHQGHIGEMSFLQHNKCECRPKKDRARQENPCGPCSERRKHLFVQDPQTKCKSCK
NTDSRCKARQLELNERTCRCDKPRR
TRTRPLEMESDESGLPAMEIECRITGTLNGVEFELVGGGEGTPEQGRMTNKMSTKGALTFSPYLLSHV
MGYGFYHFGTYPSTYENPFLHAINNGGYNTRIEKYEDGGVLHVSFSYRYEAGRVIGDFKVMGTGFPED
SVIFTDKIIRSNATVEHLHPMGDNDLDGSFTRTFSLRDGGYSSVVDSSHMFKSAIHPSILQNGGPMFA
FRRVEEDHSNTELGIVEYQHAFKTPDADAGEERV
```

Restriction Sites: SgfI-MluI



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Cloning Scheme:

Plasmid Map:


ACCN: NM_001287044

ORF Size: 489 bp

OTI Disclaimer: 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: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

| | |
|--------------------------|--|
| Components: | 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). |
| RefSeq: | NM_001287044.2 |
| RefSeq Size: | 2569 bp |
| RefSeq ORF: | 492 bp |
| Locus ID: | 7422 |
| UniProt ID: | P15692 |
| Cytogenetics: | 6p21.1 |
| 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 |
| MW: | 19.4 kDa |
| Gene Summary: | <p>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]</p> |