

## Product datasheet for **RG222457**

### **ADAM17 (NM\_003183) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	ADAM17 (NM_003183) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ADAM17
Synonyms:	ADAM18; CD156B; CSVP; NISBD; NISBD1; TACE
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG222457 ORF sequence, **codon optimized**.  
 Due to the complexity of NM\_003183, the ORF clone is codon optimized for mammalian Expression.  
 The nucleotide sequence differs from the reference sequence, yet the amino acid sequence remains identical.

Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCGACAGTCCCTCCTCTTACCAGTGTGGTACCATTTCGTGCTTGGCCCTAGACCCAGACGACC  
 CAGGCTTCGGACCTCATCAAGACTGGAGAACTCGACTCACTTCTCCGACTATGATATCCTGAGCCT  
 TAGCAATATCCAACAACACTCCGTGAGGAAGCGGGACCTGCAGACTTCAACTCATGTGAAACACTGCTG  
 ACGTTTTCCGCACTGAAGAGGCATTTCAAGCTCTACCTTACATCTAGCACTGAGCGCTTCTCTAAAAC  
 TTAAGGTGGTGGTTGTAGACGGAACGAGAGCGAATATACAGTCAAGTGGAAGATTTTTTACGCGG  
 CCACGTTGTCGGCGAACAGATAGCAGGGTGTGGCGCATATTCGCGACGACGCTGATAATCAGAATC  
 AACACCGACGGAGCTGAGTACAACATCGAGCCCTTTGGCGGTTTCGTGAATGACACAAAAGACAAGCGGA  
 TGCTTGTATACAAGCGAGGACATCAAAAATGTGTCAAGGCTCCAGTCCCCAAGGTGTGCGGGTACCT  
 GAAGGTGGATAATGAGGAGCTTCTGCCTAAAGGCTCGTTGACCGAGAACCCCGGAGGAAGTGTACAC  
 CGGGTAAAAGGCGGGCAGACCCAGATCCCATGAAAAACCTGTAAGCTGCTGGTGTGCGCGATCATA  
 GATTCTACAGGTACATGGGTAGAGGCGAGGAATCTACAACAACAACTACCTGATCGAACTGATTGATCG  
 CGTGGATGACATCTATAGGAATACGAGCTGGGACAACGCTGGCTTCAAGGGATACGGGATTCAGATTGAG  
 CAGATCCGAATACTGAAATCACACAGGAAGTGAACCTGGAGAGAAGCATTACAACATGGCGAAGTCTCT  
 ATCCCAACGAGGAAAAAGATGCTTGGGATGTAAGATGTTGCTCGAGCAGTTCTTTTCGATATAGCTGA  
 GGAAGCAAGCAAAGTCTGCCTCGCCACCTGTTTACCTACCAAGATTTTGACATGGGTACCTTGGGTCTT  
 GCCTACGTTGGCTCACCGCGCGAATAGCCACGGCGGCTTTGCCCAAGGCGTATTACTACCCGTTG  
 GTAAGAAGAACATTTACCTCAACTCAGGGCTTACTTCCACTAAAACTATGGAACCACTCCTTACCAA  
 GGAGGCTGACCTGTACGACCCACGAGCTTGGCCATAATTTCCGGGCTGAGCACGACCCAGACGGCTT  
 GCTGAGTGTGCCCAATGAGGACCAGGGCGGAAAATATGTCATGTATCCAATCGCGGTGAGTGGCGACC  
 ATGAAAAACAATAATGTTTTCAAATTGCTCAAAACAAGTATCTACAAAACCTGAATCTAAAGCGCA  
 GGAGTGTCTTCAAGAGAGGTCAAATAAAGTTTGTGGTAATTCGCGGTGGACGAGGGAGAAGAATGCGAT  
 CCAGGGATCATGTATCTCAATAATGATACTTGTGTAAGTCCGACTGCACGCTGAAGGAAGGGTGAAT  
 GCTCCGACCGAATAGTCCCTGTTGCAAGAATTGCCAGTTCGAGACTGCGCAGAAAAAGTCCAGGAGGC  
 TATTAATGCAACCTGCAAGGTGTCTCCTATTGTACGGGAACTCATCTGAGTGTCCACCCCTGGCAAT  
 GCCGAGGATGATACTGTGTGTTGGATCTTGGTAAGTGAAGGATGGGAAGTGTATCCATTCTGCGAGC  
 GGGAGCAACAGTTGGAATCATGCGCCTGCAATGAGACTGATAATCTTGCAAAGTCTGCTGTGCGACCT  
 CAGTGGCCGCTGTGTCCCGTACGTAGATGCCGAACAAAAGAACTGTTCTGCGAAAGGGAAAACCTTGC  
 ACCGTGGGTTCTGCGATATGAACGAAAAATGTAAAAAAGAGTGAAGACGTCATCGAGAGATTTTGGG  
 ATTTTCATTGACCAGCTGAGCATTAAATACATTTGGTAAGTTTCTCGCAGATAACATCGTGGATCCGTCCT  
 CGTCTTTAGCTTGATTTTCTGGATCCCGTTCAGTATTCTTGTCCACTGTGTGGATAAGAACTTGACAAG  
 CAGTATGAGTCTTTGAGCCTGTTTCATCCATCCAACGTGGAAATGCTGAGCAGTATGGATAGCGCATCAG  
 TGAGGATCATTAAAGCCTTTCCAGCACCTCAAACCTCCTGGCCGCTGCAGCCAGCCAGTATCCCTTC  
 CGCGCCTGCTGCTCAAAACTGGATCACCAAGAATGGACTATCCAGGAAGACCCCTCTACCGATAGC  
 CATATGGATGAAGACGGTTTCGAAAAGGACCCATTCCCGAACTCATCTACTGCTGCAAAATCCTTGAAG  
 ATCTCACAGATCACCCAGTTACTAGATCCGAGAAGGCTGCAAGTTTTAAGCTCCAGCGCCAGAACAGGGT  
 CGATTCTAAGGAACTGAGTGC

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >RG222457 representing NM\_003183  
 Red=Cloning site Green=Tags(s)

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MRQSLFLTSVVPFVLAPRPPDDPGFGPHQRLEKLDSSLSDYDILSLSNIIQQHSVRKRDLOTSTHVETLL
TFSALKRRHFKLYLTSSTERFSQNFKVVVVDGKNESEYTVKWDFFFGHVVGEPDSRVLAHIRDDDDVIIRI
NTDGAENIEPLWRFVNDTKDKRMLVYKSEDIKNVSRLOSPKVCGYLKVDNEELLPKGLVDREPPEELVH
RVKRRADPDPMKNTCKLLVVADHRFYRYMGRGEESTTTNYLIELIDRVDDIYRNTSWDNAGFKGYGIE
QIRILKSPQEVKPGEKHYNMAKSYPNEEKDAWDVKMLLEQFSFDIAEEASKVCLAHLFYQDFDMGTLGL
AYVGSPRANSHGVC PKAYYSPVGKKNIYLNGLTSTKNYGKILTKEADLVTTHELGHNF GAEHDPDGL
AECAPNEDQGGKYVMYPIAVSGDHENKMF SNCSKQSIYKTIESKAQECFQERSNKVCGNSRVDEGEECD
PGIMYLNNDTCCNSDCTLKEGVQCDRNSPCKNCQFETAQKKCQEA INATCKGVS YCTGNSSECPPPGN
AEDDTVCLDLGKCKDGKIPFCEREQQLESCACNETDNSCKVCCRDL SGRCVPYVDAEQNLF LRKGKPC
TVGFCMDNGKCEKRVQDVIERFWDFIDQLSINTFGKFLADNIVGSVLFSLIFWIPFSILVHCVDKKLKD
QYESLSLFHPSNVEMLSMDSASVRIIKFPAPQTPGRLQAPVIPSAPAAPKLDHQRM DTIQEDPSTDS
HMDEDGFEKDPFNSSTA AAKSFEDLTDHPVTRSEKAASF KLRQNRVDSKETEC
  
```

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



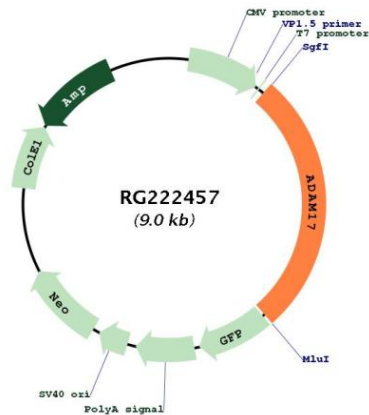
**ACCN:** NM\_003183

**ORF Size:** 2472 bp

<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<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>	<a href="#">NM_003183.4</a> , <a href="#">NP_003174.3</a>
<b>RefSeq Size:</b>	4391 bp
<b>RefSeq ORF:</b>	2475 bp
<b>Locus ID:</b>	6868
<b>UniProt ID:</b>	<a href="#">P78536</a>
<b>Cytogenetics:</b>	2p25.1
<b>Protein Families:</b>	Druggable Genome, Protease, Transmembrane
<b>Protein Pathways:</b>	Alzheimer's disease, Epithelial cell signaling in Helicobacter pylori infection, Notch signaling pathway

**Gene Summary:**

This gene encodes a member of the ADAM (a disintegrin and metalloprotease domain) family. Members of this family are membrane-anchored proteins structurally related to snake venom disintegrins, and have been implicated in a variety of biologic processes involving cell-cell and cell-matrix interactions, including fertilization, muscle development, and neurogenesis. The encoded preproprotein is proteolytically processed to generate the mature protease. The encoded protease functions in the ectodomain shedding of tumor necrosis factor-alpha, in which soluble tumor necrosis factor-alpha is released from the membrane-bound precursor. This protease also functions in the processing of numerous other substrates, including cell adhesion proteins, cytokine and growth factor receptors and epidermal growth factor (EGF) receptor ligands, and plays a prominent role in the activation of the Notch signaling pathway. Elevated expression of this gene has been observed in specific cell types derived from psoriasis, rheumatoid arthritis, multiple sclerosis and Crohn's disease patients, suggesting that the encoded protein may play a role in autoimmune disease. Additionally, this protease may play a role in viral infection through its cleavage of ACE2, the cellular receptor for SARS-CoV and SARS-CoV-2. [provided by RefSeq, Aug 2020]

**Product images:**


Circular map for RG222457