

Product datasheet for **RG211706**

ACTN3 (NM_001104) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ACTN3 (NM_001104) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ACTN3
Synonyms:	ACTN3D
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RG211706 representing NM_001104
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGATGATGGTTATGCAGCCCGAGGGTCTGGGGCCGGGAGGGCGCTTTGCGGGCGCGCGGGGGCC
 GCGAGTACATGGAACAGGAGGAGGACTGGGACCCGACCTGCTGCTGGACCCGGCCTGGGAGAAGCAGCA
 GCGGAAAACCTTCACTGCCTGGTCAACTCACACCTGCGCAAGGCAGGCACCCAGATCGAGAATCTCGAG
 GAAGATTTCCGCAATGGCCTCAAACCTATGCTGCTCCTGGAGGTCATTTCAAGGTGAGAGGCTGCCTAGGC
 CAGATAAAGGCAAGATGCGCTTCCACAAAATCGCCAACGTTAACAAGGCCCTGGACTTCATTGCCAGCAA
 GGGGGTTAAACTGGTGTCCATTGGTGTGAAGAGATTGTTGACGGGAACCTGAAGATGACCTGGGCATG
 ATCTGGACCATCATCCTTCGCTTCGCCATCCAGGACATCTCTGTGAAGAAAACCTCAGCCAAGGAAGGCT
 TGCTTCTGTGGTCCAGAGGAAGACAGCACCGTACCGCAACGTCAACGTGCAGAACTTCCACACCAGCTG
 GAAGGATGGCCTGGCCCTCTGTGCCCTCATCCACCGACACCGCCCTGACCTCATCGACTACGCCAAACTG
 CGAAAGGATGACCCCATCGGAAACCTGAACACTGCCTTTGAGGTGGCAGAGAAAATACCTGGACATCCCCA
 AGATGTTGGATGCAGAAGACATTGTGAACACCCAAAGCCGGATGAGAAGGCCATCATGACCTATGTGTC
 CTGCTTCTACCATGCCTTTCGGGGGCTGAGCAGGCAGAGACAGCTGCCAACAGGATCTGCAAGGTGCTG
 GCAGTGAACCAGGAAAACGAGAAGCTGATGGAGGAGTATGAGAAGCTTCCAGTGAAGTGCCTGGAGTGGA
 TCCGCCGCACTGTCCATGGCTGGAGAACCCTGTGGGTGAGCCAGCATGAGTGCATGCAGCGCAAACCT
 AGAGGACTTTTCGGGACTACCGCGTCTGCACAAGCCCGCCCGCATTTCAGGAAAAGTGCAGCTGGAGATC
 AACTTCAACACTGCAGACCAAGTTGCGGCTCAGCCACCGCCCTGCCTTCATGCCCTCCGAGGGCAAGC
 TGGTCTCGGACATCGCCAACGCTGGCGGGGGCTGGAGCAGTGGAAAAGGGCTATGAGGACTGGCTGCT
 CTGGGAGATCCGGCGCCTGCAGCGACTCCAGCACCTGGCTGAGAAGTTCCGGCAGAAGGCCCTCCCTGCAC
 GAAGCCTGGACCCGGGAAAGGAGGAGATGCTGAGCCAGCGGACTACGATTCGGCTTGTACAGGAGG
 TGCGGGGCTTGTGCGGCGCCACGAGGCCCTTTCAGAGCGACTGGCGGCGCACAGGACCGCTGGAGCA
 CATTGCCGCGCTGGCCAGGAGCTCAATGAGCTGGACTACCACGAGGCAGCCTCAGTGAATAGCCGCTGC
 CAGGCCATCTGCGATCAGTGGGACAACCTGGGCACCTGACCCAGAAGAGGCGGGATGCGCTAGAGCGGA
 TGGAGAAGCTCCTGGAGACCATTGACCAGCTGCAACTGGAGTTTTCGGCGGGCCGCGCCCTTCAACAA
 CTGGCTGGATGGTCCGTGGAGGACCTGCAGGACGTGTGGCTGGTACACTCTGTGGAGGAGACCCAGAGC
 CTGCTGACAGCGCAGATCAGTTCAAGGCAACACTGCCCGAGGCTGACCCGAGAGCGAGGTGCCATCATGG
 GCATCCAGGGTGAGATCCAGAAGATCTGCCAGAGTATGGGCTGCGGCCCTGCTCCACCAATCCCTACAT
 CACCCTCAGCCCGCAGGACATCAACACCAAGTGGGATATGGTCCGAAAGCTGGTGGCCAGCCGTGACCAG
 AACTGCAGGAGGAGCTGGCACGGCAGCAGGTAACAGAGAGGCTCCGGCGACAGTTTTCGGGCCAGGCCA
 ATGCCATTGGACCCTGGATCCAGGCGAAGGTGGAGGAAGTGGGGCGGCTGGCAGCAGGGCTAGCTGGCTC
 TCTGGAGGAGCAGATGGCTGGGCTACGGCAGCAGGAGCAGAACATTATCAACTACAAGACTAACATTGAC
 CGGCTGGAGGGTGACCACCAGCTGCTGCAGGAGAGCCTGGTGTTCGACAATAAGCACACCGTCTACAGCA
 TGGAGCACATCCGCGTGGGCTGGGAGCAGCTGCTCACCTCCATTGCCCGCACCATCAATGAAGTGGAGAA
 CCAGTACTGACCCGAGACGCCAAGGGACTGAGCCAGGAGCAGTCAACGAGTTCGAGCATCCTTCAAC
 CACTTTGACAGGAAGCGGAATGGGATGATGGAGCCTGATGACTTCCGAGCTTGCCTCATCTCCATGGGCT
 ATGACCTGGGGAAAGTGGAGTTTGTCTCGCATCATGACCATGGTGGACCCCAACGCAGCTGGGGTGGTGC
 CTTCCAGGCCTTCATAGACTTCATGACCCGAGAGACAGCCGAGACTGACACGACTGAGCAAGTTGTAGCT
 TCCTTCAAGATCTTGGCAGGAGACAAGAACTACATCACCCCGAGGAGCTGCGGCGGAGCTCCCTGCCA
 AGCAGGCCGAGTACTGCATCCGCCGTATGGTGCCTACAAGGGATCCGGGGCCCCGGCTGGAGCCCTGGA
 CTACGTGGCCTTCTCCAGTGCCTCTATGGGGAGAGCGACCTT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG211706 representing NM_001104
 Red=Cloning site Green=Tags(s)

```

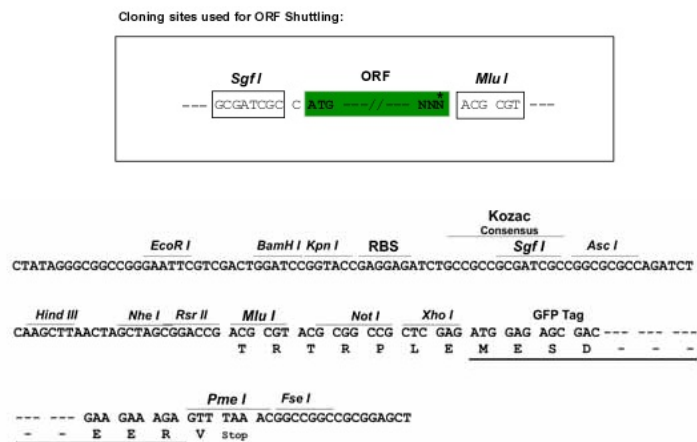
MMMVMQPEGLGAGEGRFAGGGGGGEYMEQEEDWRDLLLLDPAWEKQQRKTFTAWCNSHLRKAGTQIENIE
EDFRNGLKMLLLEVISGERLPRPDKGKMRFHKIANVNKALDFIASKGVKLVSIGAEEIVDGNLKM T LGM
IWTIILRF AIQDISVEETSAKEGLLLWCQRKTAPYRNVNVQNFHTSWKDG LALCALIHRHRPDLIDYAKL
RKDDPIGNLNTAFEVAEKYLDIPKMLDAEDIVNTPK PDEKAIMTYVSCFYHAFAGAEQAETAANRICKVL
AVNQENEKLMEEYEKLA SELLEWIRRTVPWLENRVGEP SAMSAMQRKLEDFRDYRRLHKPPRIQEK C QLEI
NFNTLQTKLRLSHRPAFMPSEGKLVSDIANAWRGLEQVEKGYEDWLLSEIRRLQRLQHLAEKFRQKASLH
EAWTRGKEEMLSQRDYDSALLQEV RALLRRHEAFESDLAAHQDRVEHIAALA QELNELDYHEAASVNSRC
QAICDQWDNLGTLTQKRRDALERMEK LLETIDQLQLEFARRAAPFNWLDGAVEDLQDVWL VHSVEETQS
LLTAHQDFKATLPEADRERGAIMG IQGEIQKICQTYGLRPCSTNPYITLSPQDINTKWD MVRKLVPSRDQ
TLQEELARQQVNERLRRQFAAQANAIGPWIQAKVEEVGR LAAGLAGSLEE QMAGLRQQEQNIINYKTNID
RLEGDHQLLQESLVFDNKHTVYSMEHIRV GWEQLLTSIARTINEVENQVLTRDAKGLS QEQLNEFRASFN
HFDRKRNGMMEPDDFRACLI SMGYDLGEVEFARIMTMVDPNAAGVVTFQAFIDFMTRETAETD TTEQVVA
SFKILAGDKNYITPEELRRELPAKQAEYCIRRMV P YKGS GAPAGALDYVAFSSALYGESDL
  
```

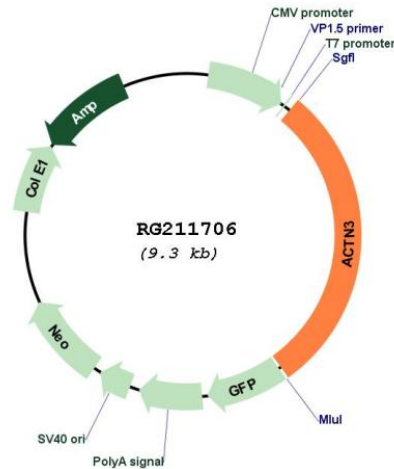
TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_001104

ORF Size: 2703 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 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: 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).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
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.

RefSeq: [NM_001104.2](#), [NP_001095.1](#)

RefSeq Size: 2938 bp

RefSeq ORF: 2706 bp

Locus ID: 89

UniProt ID: [Q08043](#)

Cytogenetics: 11q13.2

Protein Pathways: Adherens junction, Arrhythmogenic right ventricular cardiomyopathy (ARVC), Focal adhesion, Leukocyte transendothelial migration, Regulation of actin cytoskeleton, Systemic lupus erythematosus, Tight junction

Gene Summary: This gene encodes a member of the alpha-actin binding protein gene family. The encoded protein is primarily expressed in skeletal muscle and functions as a structural component of sarcomeric Z line. This protein is involved in crosslinking actin containing thin filaments. An allelic polymorphism in this gene results in both coding and non-coding variants; the reference genome represents the coding allele. The non-functional allele of this gene is associated with elite athlete status. [provided by RefSeq, Feb 2014]