

## Product datasheet for **RG201730**

### gamma Actin (ACTG1) (NM\_001614) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	gamma Actin (ACTG1) (NM_001614) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	gamma Actin
Synonyms:	ACT; ACTG; DFNA20; DFNA26; HEL-176
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG201730 representing NM_001614 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGAAGAAGAGATCGCCGCGCTGGTCATTGACAATGGCTCCGGCATGTGCAAAGCTGGTTTTGCTGGGG  
ACGACGCTCCCCGAGCCGTGTTTCTTCCATCGTCGGGCGCCCCAGACACCAGGGCGTCATGGTGGGCAT  
GGGCCAGAAGGACTCCTACGTGGGCGACGAGGCCAGAGCAAGCGTGGCATCCTGACCCTGAAGTACCCC  
ATTGAGCATGGCATCGTACCAACTGGGACGACATGGAGAAGATCTGGCACCACACCTTCTACAACGAGC  
TGCGCGTGGCCCCGGAGGAGCACCCAGTGTGCTGACCGAGGCCCCCTGAACCCCAAGCCAACAGAGA  
GAAGATGACTCAGATTATGTTTGTAGACCTCAACACCCCGCCATGTACGTGGCCATCCAGGCCGTGCTG  
TCCTCTACGCCCTCTGGGCGCACCACTGGCATTGTGACTCTGGAGACGGGGTACCCACACCGTGC  
CCATCTACGAGGGCTACGCCCTCCCCACGCCATCCTGCGTCTGGACCTGGCTGGCCGGGACCTGACCGA  
CTACCTCATGAAGATCCTCACTGAGCGAGGCTACAGCTTACCACCACGGCCGAGCGGAAATCGTGCGC  
GACATCAAGGAGAAGCTGTGCTACGTGCGCCTGGACTTCGAGCAGGAGATGGCCACCGCCGCATCCTCCT  
CTTCTCTGGAGAAGAGCTACGAGCTGCCGATGGCCAGGTATCACCATTGGCAATGAGCGGTTCCGGTG  
TCCGGAGGCGCTGTTCCAGCCTTCTTCTGGGTATGGAATCTTGGGCATCCACGAGACCACCTTCAAC  
TCCATCATGAAGTGTGACGTGGACATCCGCAAAGACCTGTACGCCAACACGGTGTGTCGGGCGGCACCA  
CCATGTACCCGGCATTGCCGACAGGATGCAGAAGGAGATCACCGCCCTGGCGCCAGCACCATGAAGAT  
CAAGATCATCGCACCCAGAGCGCAAGTACTCGGTGTGGATCGGTGGCTCCATCCTGGCCTCACTGTCC  
ACCTTCCAGCAGATGTGGATTAGCAAGCAGGAGTACGACGAGTCGGGCCCTCCATCGTCCACCGCAAAT  
GCTTC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG201730 representing NM\_001614  
 Red=Cloning site Green=Tags(s)

MEEIEAALVIDNGSGMCKAGFAGDDAPRAVFPISIVGRPRHQGMVGMGQKDSYVGDEAQSKRGILTLYKYP  
 IEHGIVTNWDDMEKIWHHTFYNELRVAPEEHPVLLTEAPLNPKANREKMTQIMFETFNTPAMYVAIQAVL  
 SLYASGRTTGIVMDSGDVTHTVPIYEGYALPHAILRLDLAGRDLTDYLMKILTERGYSFTTTAEREIVR  
 DIKEKLCYVALDFEQEMATAASSSSLEKSYELPDGQVITIGNERFRCPEALFQPSFLGMESCGIHETTFN  
 SIMKCDVDIRKDLYANTVLSGGTTMYPGIADRMQKEITALAPSTMKIKIIAPPERKYSVWIGGSILASLS  
 TFQQMWISKQEYDESGPSIVHRKCF

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001614

**ORF Size:** 1125 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).

**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\\_001614.5](#)

**RefSeq Size:** 1919 bp

**RefSeq ORF:** 1128 bp

**Locus ID:** 71

**UniProt ID:** [P63261](#)

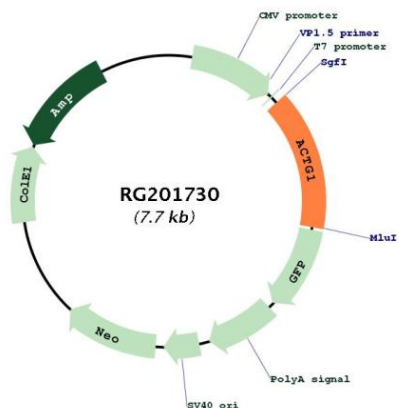
**Cytogenetics:** 17q25.3

**Domains:** ACTIN

**Protein Pathways:** Adherens junction, Arrhythmogenic right ventricular cardiomyopathy (ARVC), Dilated cardiomyopathy, Focal adhesion, Hypertrophic cardiomyopathy (HCM), Leukocyte transendothelial migration, Pathogenic Escherichia coli infection, Regulation of actin cytoskeleton, Tight junction, Vibrio cholerae infection, Viral myocarditis

**Gene Summary:** Actins are highly conserved proteins that are involved in various types of cell motility and in maintenance of the cytoskeleton. Three main groups of actin isoforms have been identified in vertebrate animals: alpha, beta, and gamma. The alpha actins are found in muscle tissues and are a major constituent of the contractile apparatus. The beta and gamma actins co-exist in most cell types as components of the cytoskeleton and as mediators of internal cell motility. Actin gamma 1, encoded by this gene, is a cytoplasmic actin found in all cell types. Mutations in this gene are associated with DFNA20/26, a subtype of autosomal dominant non-syndromic sensorineural progressive hearing loss and also with Baraitser-Winter syndrome. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jul 2017]

Product images:



Circular map for RG201730