

## Product datasheet for **RG227802**

### alpha smooth muscle Actin (ACTA2) (NM\_001141945) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	alpha smooth muscle Actin (ACTA2) (NM_001141945) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	alpha smooth muscle Actin
Synonyms:	ACTSA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG227802 representing NM_001141945 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTGTGAAGAAGAGGACAGCACTGCCTTGGTGTGTGACAATGGCTCTGGGCTCTGTAAGGCCGGCTTTG  
CTGGGGACGATGCTCCCAGGGCTGTTTTCCCATCCATTGTGGGACGTCCCAGACATCAGGGGGTGATGGT  
GGGAATGGGACAAAAGACAGCTACGTGGGTGACGAAGCAGAGCAAAAGAGGAATCCTGACCCTGAAG  
TACCCGATAGAACATGGCATCATCACCCTGGGACGACATGGAAAAGATCTGGCACCCTTTTCTACA  
ATGAGCTTCGTGTGCCCTGAAGAGCATCCCACCCTGCTCACGGAGGCACCCCTGAACCCCAAGGCCAA  
CCGGGAGAAAATGACTCAAATTATGTTTGGAGACTTCAATGTCCCAGCCATGTATGTGGCTATCCAGGGC  
GTGCTGTCTCTATGCCTCTGGACGCACAACCTGGCATCGTGCTGGACTCTGGAGATGGTGTCAACCACA  
ATGTCCCATCTATGAGGGCTATGCCTTGGCCCATGCCATCATGCGTCTGGATCTGGCTGGCCGAGATCT  
CACTGACTACCTCATGAAGATCCTGACTGAGCGTGGCTATTCTTCGTTACTACTGCTGAGCGTGAGATT  
GTCCGGGACATCAAGGAGAACTGTGTTATGTAGCTCTGGACTTTGAAAATGAGATGGCCACTGCCGCAT  
CCTCATCTCCCTTGAGAAGAGTTACGAGTTGCCTGATGGCAAGTGATCACCATCGGAAATGAACGTTT  
CCGCTGCCAGAGACCCTGTTCCAGCCATCCTTCATCGGGATGGAGTCTGCTGGCATCCATGAAACCACC  
TACAACAGCATCATGAAGTGTGATATTGACATCAGGAAGGACCTCTATGCTAACAAATGTCCTATCAGGGG  
GCACCACTATGTACCCTGGCATTGCCGACCAATGCAGAAGGAGATCACGGCCCTAGCACCCAGCACCAT  
GAAGATCAAGATCATTGCCCTCCGGAGCGCAAATACTCTGTCTGGATCGGTGGCTCCATCCTGGCCTCT  
CTGTCCACCTTCCAGCAGATGTGGATCAGCAAACAGGAATACGATGAAGCCGGCCCTTCCATTGTCCACC  
GCAAATGCTTC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG227802 representing NM\_001141945  
 Red=Cloning site Green=Tags(s)

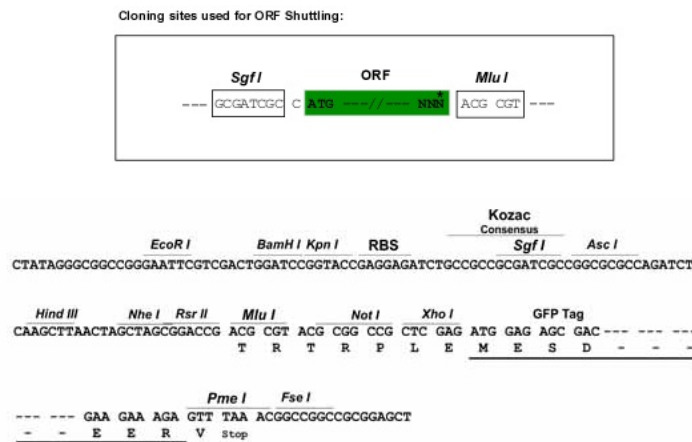
MCEEEDSTALVCDNGSGLCKAGFAGDDAPRAVFPISVGRPRHQVVMGMGQKDSYVGDEAQS<sup>1</sup>SKRGILTLK  
 YPIEHGIITNWDMEKIWHHSFYNELRVAP<sup>2</sup>EEHPTLLTEAPLNPKANREKMTQIMFETFNVPAMYVAIQ<sup>3</sup>A  
 VLSLYASGR<sup>4</sup>TTGIVLDSGDGVTHNVPIYEGYALPHAIMRLDLAGRDLTDYLMKILTERGYSFVTTAEREI  
 VRDIKEKLCYVALDFENEMATAASSSSLEKSYELPDGQVITIGNERFRCPETLFQPSFIGMESAGIHETT  
 YNSIMKCDIDIRKDLYANNVLSGGTTMYPGIADRMQKEITALAPSTMKIKIIAPPERKYSVWIGGSILAS  
 LSTFQQMWISKQEYDEAGPSIVHRKCF

TRTRPLE - GFP Tag - V

**Chromatograms:** [https://cdn.origene.com/chromatograms/ja3646\\_g03.zip](https://cdn.origene.com/chromatograms/ja3646_g03.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001141945

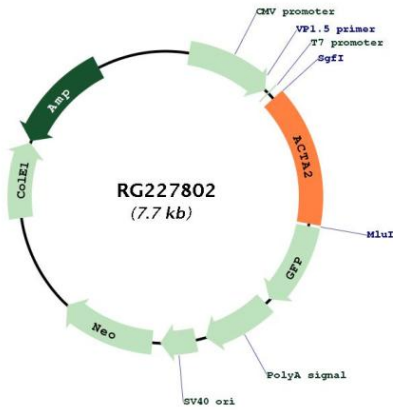
**ORF Size:** 1131 bp

**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](#)

<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_001141945.2</a>
<b>RefSeq Size:</b>	1798 bp
<b>RefSeq ORF:</b>	1134 bp
<b>Locus ID:</b>	59
<b>UniProt ID:</b>	<a href="#">P62736</a>
<b>Cytogenetics:</b>	10q23.31
<b>Protein Pathways:</b>	Vascular smooth muscle contraction
<b>Gene Summary:</b>	This gene encodes one of six different actin proteins. Actins are highly conserved proteins that are involved in cell motility, structure, integrity, and intercellular signaling. The encoded protein is a smooth muscle actin that is involved in vascular contractility and blood pressure homeostasis. Mutations in this gene cause a variety of vascular diseases, such as thoracic aortic disease, coronary artery disease, stroke, and Moyamoya disease, as well as multisystemic smooth muscle dysfunction syndrome. [provided by RefSeq, Sep 2017]

Product images:



Circular map for RG227802