

Product datasheet for **RG202873**

alpha Actinin 4 (ACTN4) (NM_004924) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	alpha Actinin 4 (ACTN4) (NM_004924) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	alpha Actinin 4
Synonyms:	ACTININ-4; FSGS; FSGS1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG202873 representing NM_004924
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCCGCATCGCC

ATGGTGGACTACCACGGCGCAACCAGTGTACCAGTACGGCCCCAGCAGCGGGCAATGGCGCTGGCG
 GCGGGGGCAGCATGGGCGACTACATGGCCAGGAGGACGACTGGGACCGGACCTGCTGCTGGACCCGGC
 CTGGGAGAAGCAGCAGCGCAAGACCTTCACGGCATGGTGAACCTCCACCTGCGGAAGGCAGGCACACAG
 ATCGAGAACATTGATGAGGACTTCCGAGACGGGCTCAAGCTCATGCTGCTCCTGGAGGTCATATCAGGGG
 AGCGGTTACCTAAGCCGGAGCGGGGAAGATGAGAGTGCACAAAAAACAATGTGAACAAAGCGCTGGA
 CTTTATTGCCAGCAAAGGCGTCAAGCTGGTCTCCATCGGGGCAGAAGAGATTGTGGACGGCAACGAAAG
 ATGACCCTGGGAATGATCTGGACCATCATCCTTAGGTTCCGCATCCAGGACATCTCCGTGGAAGAGACCT
 CGGCCAAGGAAGGCTCCTTCTCTGGTCCAGAAAAGACAGCCCGTATAAGAAGCTCAATGTGCAGAA
 CTTCCACATCAGCTGGAAGGATGGTCTTGCTTCAATGCCCTGATCCACCGGCACAGACCAGAGCTGATT
 GAGTATGACAAGCTGAGGAAGGACGACCCTGTCAACAACCTGAACAATGCCTTCGAAGTGGCTGAGAAAT
 ACCTCGACATCCCCAAGATGCTGGATGCAGAGGACATCGTGAACACGGCCCGGCCGACGAGAAGGCCAT
 AATGACCTATGTGTCCAGCTTCTACCATGCCTTTTCAGGAGCGCAGAAGGCTGAAACTGCCGCCAACCGG
 ATCTGTAAGGTGCTGGCTGTCAACCAAGAGAACGAGCACCTGATGGAGGACTACGAGAAGCTGGCCAGCG
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 TGCCAGCTGGAGATCAACTTCAACACGCTGCAGACCAAGCTGCGCCTCAGCAACCGGCCCGCCTTCATGC
 CCTCCGAGGGCAAGATGGTCTCGGACATCAACAATGGCTGGCAGCACTTGGAGCAGGCTGAGAAGGCTA
 CGAGGAGTGGCTGCTGAATGAGATCCGCAAGCTGGAGCGGCTCGACCACCTGGCAGAGAAGTTCGGGCAG
 AAGGCCTCCATCCACGAGGCTGGACTGACGGGAAGGAAGCCATGCTGAAGCACCAGGACTACGAGACGG
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 GGACCGGTGGAGCAGATCGCCGCCATTGCCAGGAGCTCAACGAGCTGGATTACTACGACTCCCACAAT
 GTCAACACCCGGTCCAGAAAGTCTGTGACCAGTGGGACGCCCTCGGCTCTCTGACACATAGTCGAGGG
 AAGCCCTGGAGAAAACAGAGAAGCAGCTGGAGGCCATCGACCAGCTGCACCTGGAATACGCCAAGCGCGC
 GGCCCCCTTCAACAACCTGGATGGAGAGCGCCATGGAGGACCTCCAGGACATGTTTCATCGTCCATACCATC
 GAGGAGATTGAGGGCCTGATCTCAGCCATGACCAGTTCAAGTCCACCCTGCCGAGCCGATAGGGAGC
 GCGAGGCCATCCTGGCCATCCACAAGGAGGCCAGAGGATCGCTGAGAGCAACCACATCAAGCTGTCCGGG
 CAGCAACCCCTACACCACCGTCAACCCGCAAAATCATCAACTCAAAGTGGGAGAAGGTGCAGCAGCTGGTG
 CAAAAACGGGACCATGCCTCCTGGAGGAGCAGAGCAAGCAGCAGTCAAACGAGCACCTGCGCCGCCAGT
 TCGCCAGCCAGGCCAATGTTGTGGGGCCCTGGATCCAGACCAAGATGGAGGAGATCGGGCGCATCTCCAT
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 ACACCAACTATACCATGGAGCACATCCGCGTGGGCTGGGAGCAGCTGCTCACCACCATTGCCCGCACCAT
 CAACGAGGTGGAGAACCAGATCCTCACCCGCGACGCCAAGGGCATCAGCCAGGAGCAGATGCAGGAGTTC
 CGGGCGTCTTCAACCCTTCAACAAGGATCATGGCGGGGCGCTGGGGCCGAGGAGTTCGAAGCCCTGCC
 TCATCAGCCTGGGCTACGACGTGGAGAACGACCGGAGGGTGGAGCCGAGTTCAACCGCATCATGAGCCT
 GGTGACCCCAACCATAGCGGCCTTGTGACCTTCAAGCCTTTCATCGACTTTCATGTGCGGGGAGACCACC
 GACACGGACACGGCTGACCAGGTCATCGCTTCTTCAAGGTCTTAGCAGGGGACAAGAATTCATCACAG
 CTGAGGAGCTGCGGAGAGAGCTGCCCCCGACAGGCGGAGTACTGCATCGCCCGCATGGCGCCATACCA
 GGGCCCTGACCCGTGCCGGTGCCTCGACTACAAGTCTTCTCCACGGCCTTGTATGGCGAGAGCGAC
 CTG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG202873 representing NM_004924
 Red=Cloning site Green=Tags(s)

MVDYHAANQSYQYGPSSAGNGAGGGGSMGDYMAQEDDWRDRLDPAWEKQQRKFTAWCNSHLRKAGTQ
 IENIDEDFRDGLKMLLLEVISGERLPKPERGKMRVHKINNVNKALDFIASKGVKLVSIGAEIIVDGNK
 MTLGMIWTIILRFQIQDISVEETSAKEGLLLWCQRKTAPYKNNVQNFHISWKDGLAFNALIHRHPELI
 EYDKLRKDDPVTNLNNAFEVAEKYLDIPKMLDAEDIVNTARPDEKAIMTYVSSFYHAFSGAQKAETAANR
 ICKVLAVNQENEHLMEDYEKLASDLEWIRRTIPWLED RVPQKTIQEMQQKLEDFRDYRRVHKPPKVQEK
 CQLEINFNTLQTKLRLSNRPAFMPSEGKMSVSDINNGWQHLEQAEGYEEWLLNEIRRLERLDHLAEKFRQ
 KASIHEAWTDGKEAMLKHRDYETATLSDIKALIRKHEAFESDLAAHQDRVEQIAAIAQELNELDYDSHN
 VNTRCQKICDQWDALGSLTHSRREALTEKQLEAIDQLHLEYAKRAAPFNNWMEASAMDLQDMFIVHTI
 EEIEGLISAHDQFKSTLPDADREREAIIAIHKEAQRIAESNHIKLSGNSPYTTVTPQIINSKWEKVQQLV
 PKRDHALLEEQSKQQSNEHLRRQFASQANVVGPIQTKMEEIGRISIEMNGTLEDQLSHLKQYERSIVDY
 KPNLDLLEQQHQLIQEALIFDNKHTNYTMEHIRVGWEQLLTTIARTINEVENQILTRDAKGISQEQMQEF
 RASFNFHDKDHGGALGPEEFKACLISLGYDVENDRQGEAEFNRMISLVDPNHSGLVTFQAFIDFMSRETT
 DTDADQVIASFVKVLAGDKNFITAEELRRELPPDQAEYCIARMAPYQGPDAVPGALDYKSFSTALYGESD
 L

TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN:

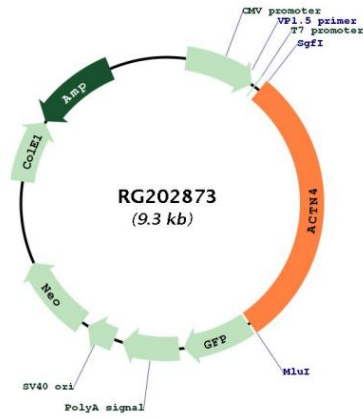
NM_004924

ORF Size:	2733 bp
OTI Disclaimer:	<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 custsupport@origene.com 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. More info</p>
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:	<ol style="list-style-type: none"> 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_004924.6
RefSeq Size:	3893 bp
RefSeq ORF:	2736 bp
Locus ID:	81
UniProt ID:	O43707
Cytogenetics:	19q13.2
Domains:	CH, spectrin, EFh
Protein Families:	Druggable Genome
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:

Alpha actinins belong to the spectrin gene superfamily which represents a diverse group of cytoskeletal proteins, including the alpha and beta spectrins and dystrophins. Alpha actinin is an actin-binding protein with multiple roles in different cell types. In nonmuscle cells, the cytoskeletal isoform is found along microfilament bundles and adherens-type junctions, where it is involved in binding actin to the membrane. In contrast, skeletal, cardiac, and smooth muscle isoforms are localized to the Z-disc and analogous dense bodies, where they help anchor the myofibrillar actin filaments. This gene encodes a nonmuscle, alpha actinin isoform which is concentrated in the cytoplasm, and thought to be involved in metastatic processes. Mutations in this gene have been associated with focal and segmental glomerulosclerosis. [provided by RefSeq, Jul 2008]

Product images:



Circular map for RG202873