

Product datasheet for **RC204924**

alpha Actinin (ACTN1) (NM_001102) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	alpha Actinin (ACTN1) (NM_001102) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	alpha Actinin
Synonyms:	BDPLT15
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide
Sequence:

>RC204924 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGGACCATTATGATTCTCAGCAAACCAACGATTACATGCAGCCAGAAGAGGACTGGGACCGGGACCTGC
TCCTGGACCCGGCTGGGAGAAGCAGCAGAGAAAAGACATTCACGGCATGGTGTAACTCCACCTCCGGAA
GGCGGGGACACAGATCGAGAACATCGAAGAGGACTTCCGGGATGGCCTGAAGCTCATGCTGCTGGAG
GTCATCTCAGGTGAACGCTTGGCCAAGCCAGAGCGAGGCAAGATGAGAGTGCACAAGATCTCCAACGTCA
ACAAGGCCCTGGATTTTCATAGCCAGCAAAGGCGTCAAACCTGGTGTCCATCGGAGCCGAAGAAATCGTGG
TGGAAATGTGAAGATGACCCTGGGCATGATCTGGACCATCATCTGCGCTTTGCCATCCAGGACATCTCC
GTGGAAGAGACTTCAGCCAAGGAAGGGTCTCTGTGGTGTGAGAGAAAGACAGCCCTTACAAAAATG
TCAACATCCAGAACTTCCACATAAGCTGGAAGGATGGCCTCGGCTTCTGTGCTTTGATCCACCGACCCG
GCCCGAGCTGATTGACTACGGGAAGCTGCGGAAGGATGATCCACTCACAATCTGAATACGGCTTTTGAC
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CCTGCCTTCATGCCCTCTGAGGGCAGGATGGTCTCGGACATCAACAATGCCTGGGGCTGCCTGGAGCAGG
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GACTATGAGACCGCCACCCTCTCGGAGATCAAGGCCCTGCTCAAGAAGCATGAGGCCTTCGAGAGTGACC
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TGACTCACCCAGTGTCAACGCCCTTGCACAAAAGATCTGTGACCAGTGGGACAATCTGGGGGCCCTAACT
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TGTGCACACCATTGAGGAGATCCAGGGACTGACCACAGCCATGAGCAGTTCAGGCCACCCTCCCTGAT
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CTACGCAAGCAGTTTGGAGCCCAGGCCAATGTCATCGGGCCCTGGATCCAGACCAAGATGGAGGAGATCG
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CATCGTCAACTACAAGCCAAAGATTGATCAGCTGGAGGGCGACCACCAGCTCATCCAGGAGGCGCTCATC
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TCGCCAGGACCATCAATGAGGTAGAGAACCAGATCCTGACCCGGGATGCCAAGGGCATCAGCCAGGAGCA
GATGAATGAGTTCGGGGCTCCTTCAACCCTTTGACCGGGATCACTCCGGCACACTGGGTCCCGAGGAG
TTCAAAGCCTGCCTCATCAGCTTGGGTTATGATATTGGCAACGACCCCAAGGAGAAAGCAATTTGCC
GCATCATGAGCATTGTGGACCCCAACCGCTGGGGTAGTGACATTCCAGGCCTTCATTGACTTCATGTC
CCGCGAGACAGCCGACACAGATACAGCAGACCAAGTCAATGGCTTCTTCAAGATCCTGGCTGGGACAAG
AACTACATTACCATGGACGAGCTGCGCCGCGAGCTGCCACCCGACAGGCTGAGTACTGCATCGCGCGGA
TGGCCCCCTACACCGGCCCGACTCCGTGCCAGGTGCTCTGGACTACATGTCTTCTCCACGGCGTGT
CGGCGAGAGTGACCTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC204924 protein sequence
 Red=Cloning site Green=Tags(s)

MDHYDSQQTNDYMQPEEDWDRDLLLDPaweKQQRKtftawcNSHLrkAGTQIENIEEDFRDGLKLMllLlE
 VISGERLAKPERGKMRVHKISNVNKALDFIASKGVKLVSIGAEIIVDGNVKMTLGMiWtIILRfAIQDIS
 VEETSaKEGLLLWCQRKTAPYKVNVIQNFHISWKDGLGFCALiHRHrPELIDYgKLRKDDPLTNLNTAFD
 VAeKYLDIPKMLDAEDIvGTARpDEKAiMtyVSSfyHAFSGAQKAETAANRICKVLAVNQENEQLMEDYE
 KLASDlLEWIRRTIPWLENrVPENTMhAMQqKLEDFRDYRRlHKPPKVQEKcQLEINfNTLQTKLRlSNR
 PAFMPSEGRMVSDINNAwGCLEQVEKGYEeWLLNEIRRLERLDHLAEKFRQKASiHEAWTDGKEAMLRQK
 DYETATLSEIKALLKKHEAFESDLAAHQDRVEQIAAIAQELNELDYDSPSVNARCQKICDQWDNLGALT
 QKRREALERTEKlLETIDQLYLEYAKRAAPFNWMEGAMEDLQDTFIVHTIEEIQGLTTAHEQFKATLPD
 ADKERLAILGIHNEVSKIvQTYHVNMAgTNPYtTITPQeINGKWDHVRQLVPRRDQALTEEHARQqHNER
 LRKQFGAQANvIGPWIQTkMEEIGRISiEMHGtLEDQLSHLRQYEKSiVNYKPKIDQLEGDHQLIQEALI
 FDNKHTNYTMEHIRvGWELLTTIARTINEVENQILTRDAKGISQEQMNEFRASFNHFDRDhSGTLGPEE
 FKACLISLGYDIGNDPQGEAEFARIMSiVDPNRLGVVTFQAFIDFMSRETADTDTADQVMASFKILAGDK
 NYITMDELRRRELPPDQAEYCIARMAPYtGPDSVPGALDYMSFSTALYGESDL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6062_g08.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

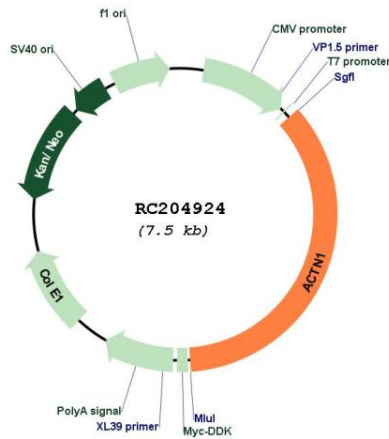
ACCN: NM_001102

ORF Size:	2676 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:	<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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_001102.4
RefSeq Size:	3743 bp
RefSeq ORF:	2679 bp
Locus ID:	87
UniProt ID:	P12814
Cytogenetics:	14q22-q24
Domains:	CH, spectrin, EFh
Protein Families:	Druggable Genome, ES Cell Differentiation/IPS
Protein Pathways:	Adherens junction, Arrhythmogenic right ventricular cardiomyopathy (ARVC), Focal adhesion, Leukocyte transendothelial migration, Regulation of actin cytoskeleton, Systemic lupus erythematosus, Tight junction
MW:	103.1 kDa

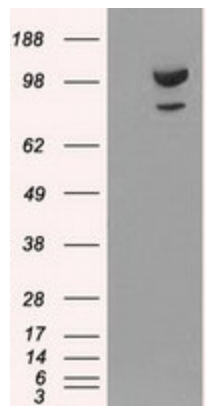
Gene Summary:

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, cytoskeletal, alpha actinin isoform and maps to the same site as the structurally similar erythroid beta spectrin gene. Three transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

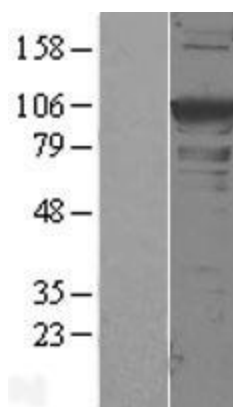
Product images:



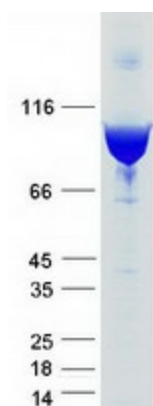
Circular map for RC204924



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ACTN1 (Cat# RC204924, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-ACTN1 (Cat# [TA500072]). Positive lysates [LY400447] (100ug) and [LC400447] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400447]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204924 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ACTN1 protein (Cat# [TP304924]). The protein was produced from HEK293T cells transfected with ACTN1 cDNA clone (Cat# RC204924) using MegaTran 2.0 (Cat# [TT210002]).